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The Impact of Covid-19 Pandemic on the Mental Status of Public Health Professionals and Role of Safety Workers & Policymakers in Covid-19 Pandemic Era

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A DISSERTATION

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ABSTRACT

The Covid-19 Pandemic has been a global issue which has affected and impacted on the human population several ways. Some of the major set or group of population that has been significantly affected by the pandemic are the health workforce, that is medical and health workers globally. This study aims to examine the impact of the Covid-19 pandemic on the Mental status of public health professionals in general. Specifically, it examines and evaluate the perceived stress of public health professionals before and during the Covid-19 pandemic, it examines the impact and effect of the Covid-19 pandemic on the personal wellbeing and mental health of public health professionals as well as investigate whether there are differences in the perceived level of stress among different health professionals.

This study adopts a quantitative approach of research, making use of primary data which were gathered and gotten through the process of online questionnaire survey. A total number of 40 participants took part in this survey, with only of them being health workers.

The results showed that there was significant difference in the stress level before and during the Covid-19 pandemic. The results also showed that Covid-19 has significantly impacted and affected the personal wellbeing and Mental status of health professionals. The last result however, revealed that there was no clear distinction or difference in the level of stress experience by different health profession.

On the basis of this, the issue of Covid-19 and its impact on health professionals should be taken seriously and into account, and more effort should be put in helping and ensuring that health workers and professionals are provided with the best and conducive social environment in times like this.

To sum it up, there is a critical need of reopening the workplaces and the safety workers are going to be the first line of defense to ensure the safety of their workers. They are now under stress to perform well and provide the required environment demanded for operations in the Covid-19 era in order avoid future rise in cases as well as a next pandemic.

DECLARATION

I honestly declare that this dissertation is entirely my own work and none of its part has been copied from printed or electronic sources, translated from foreign sources and reproduced from essays of other researchers or students. Wherever I have been based on ideas or other people texts I clearly declare it through the good use of references following academic ethics.

Student's signature

Valliammai Krishnan Parandhaman

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DISSERTATION THESIS

This study is focused in examining and understanding the impact of the Covid-19 on the Mental health professionals. To understand how the pandemic has affected and impacted on the Mental health of different health professionals. Four objectives were set in order to examine the underlying factors which might contribute negatively to the mental health of health professionals as a result of Covid-19, which were; examining if there are differences in perceived stress level among health professionals before and during the pandemic, to examine the impact and effect of Covid-19 on the personal well-being of health profession as well as to examine the impact of the pandemic on their mental health, and to understand if there are differences in the perceived stress level among different fields of health professionals and critical need of reopening the workplaces and the safety workers are going to be the first line of defense to ensure the safety of their workers.

INTRODUCTION

Background of the Study

COVID-19, also known as the coronavirus disease was initially identified towards the end of 2019 in Wuhan, China. Due to its highly contagious nature, it was recognized by the World Health Organization (WHO) as a pandemic (Organization, 2020). The Coronavirus (COVID-19) pandemic has had an everlasting effect on the global economy as well as putting an undue strain on the social and healthcare systems of the world. By March, 2020 the virus had spread to all major countries of the world (Dong E, 2020). With not much known about the novel virus it is impossible to foresee, the damage, both in terms of the number of lives it will affect and claim (Mamun, 2020).

This present study/research aims to investigate the impact of the Covid-19 on the mental health status of public health professionals generally, it examines the adverse psychological outcome, perceived stress level and personal issues experienced by public health professionals during the Covid-19 outbreak and evaluates their mental status before the advent of the Covid-19 pandemic and during the pandemic so as to understand the changes in psychological suffering of these public health professionals and provide possible intervention measures to decrease the mental stress of this population.

Aim and Objectives of the study

The aim of this study is to examine and evaluate the impact of the Covid-19 on the mental status of public health professionals and to ensure the safety for workers as they are the first line of defense.

The study pursues to answer the objectives as follow:

- To evaluate the perceived stress level of health professionals before and during the Covid-19 pandemic.
- To evaluate the effect of Covd-19 on their perceived stress level.
- To examine impact of covid-19 on the personal well-being of health professionals
- To understand if there are differences in perceived stress level among health professionals as a result of the impact of Covid-19

METHODOLOGY

The Method and research design adopted for this study is majorly a quantitative approach or method of research and data required to carry out the study are primary data which are first-hand information gotten through the process of questionnaire survey. After careful analysis of data set, detailed interpretation and inferences will be made so as to provide so as to provide answers to the research questions and test the hypotheses of the study coupled with discussion of the result and its implications.

RESEARCH QUESTIONS

The research questions that have been formulated for this study is stated below as follows;

1. What is effect of Covid-19 on the personal well-being of public health professionals?
2. Is there any difference in the perceived stress level of health professionals before and during the Covid-19 pandemic?
3. Are there any differences in the perceived stress level among health professionals as a result of Covid-19?
4. What is the effect of Covid-19 pandemic on the perceived stress level of public health professionals?

SYNOPSIS OF THE CHAPTERS

The first chapter of the research introduces the discuss on Covid-19, its origin and history as well as diagnosis and impact on the health sector in general.

The second Chapter examines the discuss on psychological and mental stress and contributory factor. Mental stress among health workers in general is also examined.

The third chapter will be on methodologies. Both qualitative and quantitative researches will be studied which led to instability in mental state of healthcare professionals.

The fourth chapter will cover the findings, analysis and discussion. Before the Conclusion, we have an opportunity to healthcare workers have become vulnerable to psychological health conditions due to Covid-19 global health crisis. It is important to deal with the mental health problems among the frontline workers to help them perform their duties effectively.

CHAPTER ONE

1.0 Covid-19 Pandemic (A global Perspective)

1.1 History and Origin

The first case of Corona virus was reported as cold in 1960. According to the Canadian study 2001, approximately 500 patients were identified as Flu-like system. 17-18 cases of the, were confirmed as infected with Corona virus strain by polymerase chain reaction. Corona was treated as simple non-fatal virus till 2002. In 2003, various reports published with the proofs of spreading the corona to many countries such as U.S.A, Hong Kong, Singapore, Thailand, Vietnam and in Taiwan. Several cases of severe acute respiratory syndrome caused by Corona and their mortality more than 1000 patient was reported in 2003. In 2004, World health organization and centers for disease control and prevention declared as “state of emergency”. Another study report of Hong Kong was confirmed 50 patients of severe acute respiratory syndrome while 30 of them were confirmed as corona virus infected. In 2012, Saudi Arabian reports were presented several patients and deaths ((CDC), 2003; WHO, Coronavirus never before seen in humans is the cause of SARS–update 31, 2003; Peiris, et al., 2003).

Coronavirus disease 19 (COVID-19) is a pathogenic viral infection that presents as a new public health crisis globally (Shereen , Khan, Kazmi, Bashir, & Siddique, 2020; Singhal , 2020). It is highly transmissible and caused by severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) (Shereen , Khan, Kazmi, Bashir, & Siddique, 2020). The initial cases of pneumonia of unknown cause were reported on 31st December 2019 to the

world health organization (WHO) country office in China (WHO, 2020). Later in mid-January, officials confirmed the first case of COVID-19 outside of China in Thailand (WHO, 2020). Currently (mid of June), 213 countries have been affected with 7.76 million confirmed cases of COVID-19 and around 430k deaths (WHO, 2020).

Coronaviruses (CoVs) are positively sensed single-stranded RNA viruses that belong to the order Nidovirales, family Coronaviridae, subfamily Orthocoronavirinae with 4 genera: alpha, beta, delta, and gamma coronaviruses (WHO, 2020). Alpha CoVs and beta CoVs originated from bats and rodents while delta CoVs and gamma CoVs have their origins from avian species (Cascella, Rajnik, & Cuomo, 2020). The beta CoVs including SARS-CoV-1 was isolated from bats in 1992 with civet cats being the intermediary host; MERS-CoV was isolated from dometry camels in 2003; and of course, the currently circulating SARS-CoV- 2 formally referred to as 2019 novel coronavirus (2019-nCoV) causing COVID-19. SARS-CoV-2 has a pleomorphic and circular structure with a diameter of about 60-140mm. it can be transmitted from human-to-human by respiratiory droplets from sneezing, coughing, and aerosols, with symptomatic people being the major source of transmission. It has a dynamic incubation period of about 7-14 days (Li, et al., 2020).

The novel virus whole-genome sequence showed 96.2% similarity to a bat SARS-related coronavirus isolated in China against <80% to the genomes of SARS-CoV and <50% to MERS-CoV (Lu, et al., 2020; Zhou, et al., 2020). Which further confirmed the similarity between the novel virus and bat betacoronavirus in the sub-genus sarbecovirus earlier reported by Benvenuto et al (Benvenuto, et al., 2020) and Xu et al (Xu, et al., 2020). According to Zhang et al (Zhang, Shen, Chen, & Lin, 2020), phylogenomic analysis of the recently released genomic data of 2019-nCoV showed that the 2019-nCoV is most closely

related to two severe acute respiratory syndrome (SARS)- like CoV sequences that were isolated in bats from 2015 to 2017, suggesting that the bats' coronaviruses and the human 2019-nCoV share a common ancestor. Therefore, the 2019-nCoV can be considered as a SARS-like virus hence, the name SARS-CoV can be considered as a SARS-like virus hence, the name SARS-CoV-2 as designated by the Coronavirus Study Group of the International Committee on Taxonomy of Viruses. The two bat viruses were collected in Zhoushan, Zhejiang Province, China, from 2015 to 2017.

A study by Tang et al (Tang, et al., 2020) on the population genetic analyses of 103 SARS-CoV-2 genomes proved that based on 2 different on 2 different single nucleotide polymorphisms that showed early complete linkage across the viral strains submitted to the Genbank, these viruses evolved into 2 major genetypes designated as L and S with the L type (~70%) found to be more prevalent than the ancestral S type (~30%).

1.2 Diagnosis of Covid-19

Coronaviruses have been reported to cause 5% to 10% of acute respiratory infections with more than 2% of the population as healthy carriers of HCoV (Chen, Liu, & Guo, 2020). The clinical diagnoses are similar to those of other human coronaviruses. The WHO gave a case definition as a patient with fever and at least a symptom of cough or shortness of breath, and with no other casue that exaplains the symptom and history of journey to or residence of any location reporting local transmission of COVID-19 during the 14 days prior to symptom onset, or a patient with acute respiratory illness and having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to the onset of symptomms, or a patient with severe acute respiratory infection [fever and at least one sign/symptom of respiratory disease (e.g cough, shortness of breath)] and requiring hospitalization and with no other aetiology that fully explains the clinical presentation. A probable case is a suspect case with an inconlusive testing for COVID-19 while a confirmed case is a person a with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms (WHO, 2020).

Laboratory diagnoses require the collection of respiratory specimens including oropharyngeal or nasopharyngeal aspirates or washes, oropharyngeal or nasopharyngeal swabs, sputum, bronchoaveolar lavage and tracheal aspirates (CDC, 2020) usually examined and tested with the cultural method of vital isolation in tissue culture or cell lines, the serological technique of antibody titre measurement, electron microscopy for examination of viral particles, conventional and real-time transcriptase polymerase chain reaction.

1.3 COVID-19 and the Health sector

The outbreak of novel coronavirus (COVID-19) puts a spotlight on the resilience of health systems and countries' emergency preparedness and response. The rapid expansion of COVID-19 emphasizes the urgent need for a strong health workforce as an integral part of every resilient health system (Li L. , 2020).

Health workers are the backbone of the health system. Due to the nature of their profession, millions of them risk their own health doing their daily work. So, who is protecting health workers, who are so critical to the fight to stem the COVID-19 pandemic? Respect for labour rights and decent conditions of work are crucial to give these frontline workers the protection they need for waging the long battle ahead to save lives.

1.3.1 The Impact of COVID-19 on health workers

By 10 April 2020, more than 1.4 million confirmed cases of COVID-19 and over 87,000 deaths had been reported by the World Health Organization (WHO), affecting more than 200 countries, areas and territories (WHO, 2020).

22, 073 cases of COVID-19 in health workers from 52 countries have been reported to WHO by 8 April 2020. WHO states, however, that this number probably under-represents infections in health workers globally due to lack of systematic reporting (WHO, 2020).

Infection among health workers has been common since the emergence of the disease. By February 2020, a study from China had observed 3,019 cases of COVID-19 among health workers, of which 1,716 were confirmed cases (3.8 per cent of all confirmed cases, 63 per cent of them in Wuhan). Of the cases among health workers, 14.8 per cent were classified as severe or critical, and five deaths were reported (Wu & McGoogan,

2020). In Italy, at 9 April 2020 there had been 14,066 confirmed cases of COVID-19 in health workers, representing an infection rate of over 10 per cent (Epicentro, 2020). Ireland has reported that 1 in 5 of its COVID-19 cases is a health worker (Government of Ireland, 2020). Five infected health workers have been reported in Togo, representing an infection rate of 8.6% (Presentation by the Director of Occupational Health, Ministry of Health, Togo, at the WHO EPIWIN webinar on National occupational health programmes for health workers, 2020).

Robust data on the number of infected health workers are not however, being collected systematically, as may countries do not have adequate reporting mechanisms in place. Furthermore, many reports do not distinguish health worker infection by general and occupation exposure, but ratherr include all sources of infection.

The protection of health workers focuses on the prevention of contracting and spreading COVID-19. The transparent and timely dissemination of information on the transmission of the disease is key in this regard. The availability of personel protective equipment (PPE), as well as training and education in its correct uage, is alo critical. Specific infection control meaures, such as visual alerts, respiratory hygiene and cough etiquette, masking and separation of persons with respiratory symptoms, and droplet precaution, can help to prevent occupational respiratory among health workers and patients in health-care settings.

In a recently publihed survey by National Nurse United in the United States, only 30% of respondents reported that their employer had sufficient PPE stock to protect staff in the event of a rapid surge in potential COVID-19 patient. Only 65% reported having been

trained in safely donning and doffling PPE in the previou year (Survey of Nation's Frontline Registered Nurses Shows Hospitals Unprepared For COVID-19, 2020). Moreover, obervation from the United States show that guidance on when and where to use masks is not well developed. While in some places health workers wearing masks have faced disciplinary consequences for causing anxiety among patients (Why Would Hospitals Forbid Physicians and Nurses from Wearing Masks?, 2020), in others, health workers have received threats of dismissal when speaking out about lack of PPE and their working conditions during the pandemic.

1.3.2 Psychological view of Policymakers & Safety worker

Some studies have taken a psychological view of how the leaders and the safety policy workers in a workplace need to make accommodations with regards to various employee behaviors once they return to their old working areas. It was noted that among employees that were working in the epicenter of the pandemic showed greater job reattachment due to greater levels of engagement associated with lower work withdrawal and higher personal protective equipment utilization. (Yuan, Ye and Zhong, 2020). This research highlights that in the presence of personal protection equipment the workers feel much safer and can return to their work environment more comfortably and with greater motivation.

Another study suggested that the safety policy made by the policymakers considers the research of various studies on the demographics of how the Covid-19 has been transmitted. The study also suggested different policies and guidelines that have been adopted by some corporations and should also be beneficial if implemented by other workplaces. These include bringing back youth as it is much less fatal for the youth, while

the older workforce should continue to work from home and avoiding chances of transmission. For this the incentives need to be put in place so that young people are motivated to return to the workplace. The normalization of opening organizations should be based on the input and output tables and the effect their closure is having on the economy. Another important suggestion that should be noted is the creation of a task force that has the responsibility of incorporating the safety measure and ensure that these procedures are being followed to create a better environment that is safer for the workplace. (Ichino et al., 2020).

In another research that used online self-administered questionnaires to study the behavior of employees to determine the stress levels regarding policies related to safety measures and availability of personal protective equipment. The findings suggested that the shortage of personal protective equipment during the Covid-19 pandemic has led to increase in employee stress. This has put a great pressure on the safety workers and policy makers to provide their workers with such equipment and to improve the workplace policy to mitigate employee exposure and risk to the Covid-19 virus. It brings out the urgency of the need to develop workplace policy at government level as well as at organization level so that workplace safety can be managed, and the employees' health and well-being can be better taken care of during the pandemic period. It also considers that a lot of organizations have developed social distancing and work from home policies and those that require employees to be present in the workplace have created proper standard operating procedures and valid measures such as different shifts to avoid traffic in workplace, timely disinfections as well as cleanliness among the office to provide a better and safer environment for its employees. The research results proposed that the

places where proper action was taken in proper time the safety workers are less stressed as well as the employees. (WONG et al., 2020).

Workers require flexibility to continue working productively after coming back from remote working. This is because workers tend to develop different working habits. From literature it is evident that job modification needs of employees increase after injuries, similarly workers will have different needs related to Covid-19 such as better and safer environment to work in as well as availability of proper resources to take care of them. Due to such studies the role of supervisors and safety workers is highlighted and is considered an important source of information. It has also been considered how the immediate supervisors need to effectively implement proactive policies and practices to ensure workplace safety and return of employees to work. (Kristman, et al., 2017). Workers are relying greatly on the safety professionals and supervisors to interpret the policies and the practices of owners and corporations they work for. They require support, guidance, and addressing of a wide range of effects of the virus as well as the social distancing. The new working environments and arrangements further aggravated the need for questioning of authority. The safety professionals as well as the policymakers need to provide flexibility and modifications to workplace to support the opening of safer workplaces. This can differ among industries; however, the more care needs to be put in places where workers need to work closer together as it may be a greater source of risk. Some workers may still prefer remote working and it may lead to extended leaves from work. To counter this the safety professionals, need to create policies specifically targeted for their industry under study as if such conditions prevail workers may start seeking other job roles leading to unemployment or increased turnover rates. (Shaw et al., 2020).

In a study based on the analysis of recommendations provided by WHO to restart working and exiting the lockdown phase. It comments on recommendation 5 by stating based on the tackling of preventative measures in workplaces which is not mentioned in any lockdown exit criteria. It recounts on how the community has major concerns regarding this recommendation by giving the example of Scotland where 390 public concerns were sent to the health and safety executive just in the month of march alone before the easing of lockdowns. The comments suggest that the safety professionals need to go above and beyond the recommendations of WHO to meet the needs and curiosity of the workers returning to their workplaces. (Cresswell, Dhami and Sheikh, 2020).

W.HO. also published an article containing a list of suggestions that the employers, safety professionals and policymakers are advised to follow in the process of opening their workplaces as well as during the time after they have opened their workplaces. The first set of suggestions includes the usual precautions required for employees under normal conditions these include availability of proper sanitizations, cleanliness, proper respiratory hygiene, as well as proper safety equipment such as masks and gloves. In the second part it goes on to provide more recommendations as to how business trips should be planned according to national alerts and anyone experiencing mild fever should not come to the workplace. It also shines light that employers should provide proper cleaning of the meeting area before the meeting and proper products such as hand sanitizers and masks should be available during the meeting and after the meeting the names and contact of the people involved should be saved to ask about any symptoms showing up. (World Health Organization, 2020).

A study drawing its conclusion from more than 900 workers from the Latin American region suggested, that the employees returning to the workplace were more comfortable and more productive if they understood that proper action was taken for their safety. They pointed out that the safety workers and policymakers need to do a lot of work to provide their workers with a minimum risk environment so that they can start their work normally as before. From this study it is evident that there is a lot of pressure and stress on the safety workers as it is now their duty and responsibility to provide the best conditions that can minimize the transmission in the workplace. The study was done in the healthcare sector and hence it puts a lot of focus on the protective equipment and proper sanitization provided by the safety workers. (Delgado et al., 2020).

A research also showed that the more the employees believe that their leader is conscious of their safety and more the safety professionals are focused to provide a risk-free environment, the employees will feel more obliged to return to work. (Yuan, Ye and Zhong, 2020). Hence, the workplaces need to focus on the safety protocols and should provide proper communication to make sure that the employees feel that the safety professionals are properly managing the workplace to provide a risk-free environment for a better working experience.

CHAPTER TWO

2.0 Mental and Psychological Related Issues of Covid-19

2.1 Mental Health and Psychosocial Support

The COVID-19 pandemic is placing health professionals in exceptionally demanding situation. In addition to a heavy workload, they are coping with fear of contracting the disease and spreading it to their family and friend. The overall atmosphere of anxiety among the general population is impacting health professionals and their mental health.

A mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19 in China revealed a 23% incidence rate for anxiety and 27% for stress disorder among health workers responding to the COVID-19 outbreak. The incidence rate of anxiety among nurses was higher than for doctors (Huang , 2020).

Management and health professionals in highly burdened hospitals are calling for psychological support to help staff cope with excessive hours, high intensity of work and experiences with unprecedented death rates (Corona-Pandemie: Wie lange muss sich die Schweiz abschotten?, 2020). With many countries shutting down schools and public life, heath professionals, many of whom are women, are confronted with high professional demands, while also having to organize their home life and look after their dependants, particularly if they have children or ill or disabled family members. In addition, health professionals in areas that report high numbers of COVID-19 cases faces tension between public health priorities and the wishes of patients and their families regarding treatment

(Cabrita, 2020). The consequences of dealing with difficult decisions can range from anxiety to post traumatic stress disorders (U.S Department of Veterans Affairs, 2020).

Lessons from other outbreaks, such as the Ebola virus disease epidemic in West Africa 2014, have shown that health workers may experience violence, discrimination and stigma in society and in their communities, due to fear of contracting the disease (WHO, 2020). In some countries, health professionals and other public services workers are considering alternate accomodation during the outbreak, such as low-cost hotel rooms, to protect their familiers from exposure to COVID-19 (Zielinski, 2020).

Providing support in health-care teams and among families, and friends, information and guidance for health workers on how to deal with stress, and post-traumatic stress counselling must an integral part of the COVID-10 response.

2.2 Psychological Impact of COVID-19 on the Mental Health in the General Population

Existing evidence clearly showed the most relevant and profound psychological impact of the outbreaks on the general population (Wang, Wang, & Yang, 2020; Shereen , Khan, Kazmi, Bashir, & Siddique, 2020; Torales, O'Higgins, Castaldelli-Maria, & Ventriglio, 2020; Jeong, Yim, Song, Min, & Cho, 2016). Figure 1 summarizes the most relevant psychological reactions in the general population related to COVID-19 pandemic. Although aspecific and uncontrolled fears related to infection pervasive anxiety, frustration and boredom, loneliness have been hypothesized to impair subjective wellbeing and quality of life, resilince and enhances social support are protective factors that may help with regard to lifestyle changes and re-adaptation mechanisms (Wang, Wang, & Yang, 2020; Shereen , Khan, Kazmi, Bashir, & Siddique, 2020).

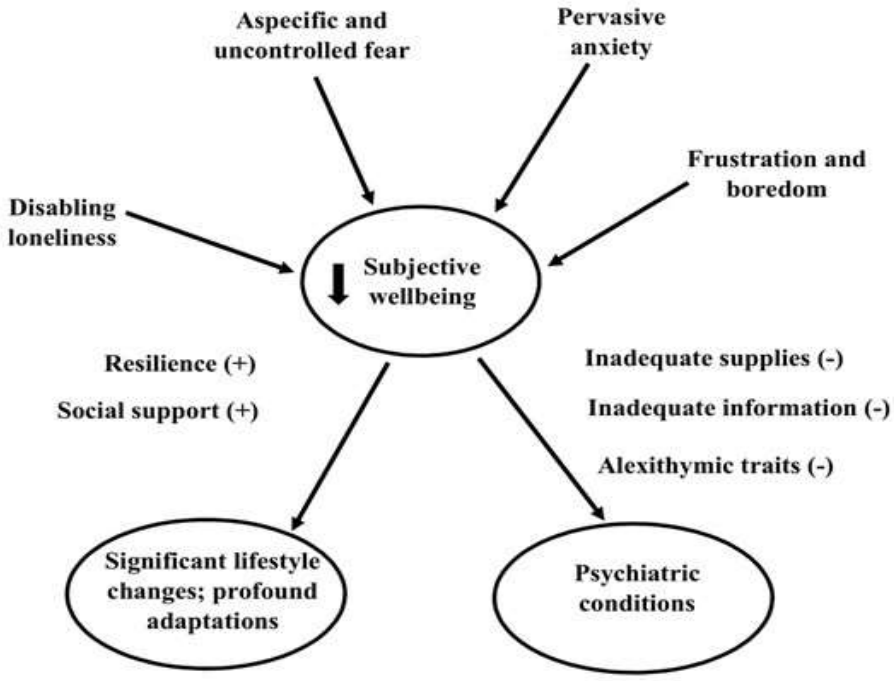


Fig 1. Summary of most relevant psychological reactions in the general population related to COVID-19 pandemic.

2.2.1 A specific and Uncontrolled fears related to the Pandemic

There is commonly one of the most frrequent psychological reaction to pandemics. Several existing studies demonstrated that those who have been exposed to the risk of infection may develop pervasive fears about their health, worries to infect others and fear infecting family members (Bia, Lin, Chen, Chue, & Chou, 2004; Cava, Fay, Beanlands, McCay, & Wignall, 2005; Jeong, Yim, Song, Min, & Cho, 2016; Desclaux, Badji, Ndione, & Sow, 2017). Jeong et al (2016) reported that these individuals are more vulnerable than others to manifest worries if they experienced physical symptoms potentially linked to the infection and fear that symptoms are directly associated to actively having the infection even several months after exposure. Other studies reported that pregnant women and

individuals with young children are the most at risk to develop the fear of becoming infected or transmitting the virus.

2.2.2 Pervasive Anxiety

Social isolation related to restrictions and lockdown measures are linked to feelings of uncertainty for the future, fear of new and unknown infective agents resulting in abnormally increased anxiety (Shereen , Khan, Kazmi, Bashir, & Siddique, 2020). Anxiety may be directly related to sensorial deprivation and pervasive loneliness, in this case first insomnia but later depression and post-traumatic stress ocurred. In addition, anxiety is closely associated with fatigue and reduced performanced in health professionals while boredom and loneliness are directly related to anger, frustration and sufferings linked to quarantine restrictions (Torales, O'Higgins, Castaldelli-Maria, & Ventriglio, 2020). Furthermore, additional tragic effects associated with pervasive anxiety in a pandemic period may include the perceived lower social support, separation from loved ones, loss of freedom, uncertainty and boredom (Lee & You, 2020).

2.2.3 Frustration and Boredom

Distress, boredom, social isolation and frustration are directly related to confinement, abnormally reduced social/phyiscal contact with others, and loss of usual habits (Reynolds, et al., 2008; Hawryluck, et al., 2004; DiGiovanni, Conley, Chiu, & Zaborski, 2004; Cava, Fay, Beanlands, McCay, & Wignall, 2005). As reported by Jeong *et al* (2016), frustration and pervasive loneliness seem to derive by the inhibition from daily activities, interruption of social necessities, not taking part in social networking activities. Unfortunately, in this context hopelessness together with other individual characteristics

such as the experience of childhood maltreatment as well as extreme sensory processing patterns may significantly and independently predict suicidal behaviour (Pompili, et al., 2014; Engel-Yeger, et al., 2016) but even the unbearable anger related to the impossition of quarantine may lead to negative outcomes.

2.2.4 Disabling Loneliness

The final effect of social isolation is pervasive loneliness and boredom, which have potential dramatic effects on both physical and mental individual well-being. Pervasive loneliness may be significantly associated with increased depression and suicidal behaviour (Cava, Fay, Beanlands, McCay, & Wignall, 2005). Unfortunately, the isolation is progressively enhanced by anxiety panic or collective hysteria. Cognitiv functions and decision making are firstly impaired by hyperarousal and anxiety and later by disablin feelings of loneliness. In addition, social isolation and loneliness are aslo associated with alcohol and drug abuse (Wu, et al., 2009). Both frustration and pervasive loneliness seem to derive by the inhibition from daily activities, interruption of social necessities, inability to take part in social networking activities enhancing the risk of hopelessness and suicidal behaviour in this specific context (Orsolini, et al., 2020). Overall, it is well known that long periods of social isolation or quarantion for specific illnesses may have detrimental effects on mental well-being (Stickley & Koyanagi, 2016)

2.3 Review of Empirical Studies

Several studies have been carried out on the impact and effect on COVID-19 on the mental wellbeing, health, and state of heatlh workers population as well as the general population as a whole. This section will therefore, highlight and examine these stiudies in

a nutshell; the aim of these studies, the method incorporated in gathering and collecting data, as well as the result of the studies. Some of these studies have examined the psychological impact of COVID-19, emotional impact and working conditions, Impact of the COVID-19 pandemic on healthcare worker's risk of infection and outcomes in a large integrated health system, Physical and mental impacts of COVID-19, impact on healthcare worker wellness.

Natasha, Daniyal and Jumaid (2020) carried out a study to examine the physcal and mental health impactso of COVID-19 on health care workers, they adopted the Arksey O'Malley Framework to conduct a scoping review. A systematc literature search was conducted using two databases. Information on the data of publication, first author's country, title of article, study design, study population, intervention and outcome, and key findings, and divided all research articles into two domains; physical and mental health impact. Their findings identified risk factors for COVID-19 related health impact which were working in a high-risk department, diagnosed family member, inadequate hand hygiene, suboptimal hand hygiene before and after contact with patients, improper PPE use, close contact with patients (≥12 times/day), long daily contact hours (≥15 h), and unprotected exposure. The most common symptoms identified amongst HCWs were fever (85%), cough (70%), and weakness (70%). Prolonged PPE usage led to cutaneous manifestations and skin damage (97%), with the nasal bridge (83%) most commonly affected site. HCWs experienced high levels of depression, anxiety, insomnia, and distress. Female HCWs and nurses were disproportionately affected.

In another study conducted by Shreffer, Petrey, and Huecker (2020), which was aimed at examining the impact of COVID-19 on health care worker wellness. The purpose of the

study was to provide a review on current publications measuring the effects of COVID-19 on wellness of healthcare providers to inform interventional strategies. They used the same approach by Natasha, Daniyal and Jumaid (2020) in their research. They excluded articles without original data, research studies regarding the wellness of non-healthcare occupations or the general public exclusively, other outbreaks, or wellness as an epidemic. A total of 37 studies were included in their review. The review of literature revealed consistent reports of stress, anxiety, and depressive symptoms in HCWs as a result of COVID-19.

Misra-Hebert *et al* (2020) in their study on the impact of COVID-19 pandemic on health care worker's risk of infection and outcomes in a large integrated health system, tried to understand the impact of the COVID-19 pandemic on healthcare workers (HCW) is crucial. They made use of a retrospective cohort study with overlap propensity score weighting. The study population were individuals tested for SARS-CoV-2 infection in a large academic healthcare system (N= 72,909) from March 8–June 9, 2020, stratified by HCW, and patient-facing status. The result of the study revealed that in a large healthcare system, HCW had similar odds for testing SARS-CoV-2 positive, but lower odds of hospitalization compared to non-HCW. Patient-facing HCW had higher odds of a positive test.

Lastly, Ming *et al* (2020) conducted a study which was psychological impact study of COVID-19 on medical care workers in China. The study was conducted from February 23 to March 5, 2020, a cross-sectional survey was conducted among 863 medical care workers from seven provinces in China using standard questionnaires measuring adverse psychological outcomes including Impact of Event Scale-6 (IES-6), Depression, Anxiety

and Stress Scale (DASS)and related psychosocial factors like perceived threat, social support and coping strategies. Exploratory Factor analysis was performed to identify the dimensions of perceived threat by study participants. Multivariate regression was used to examine the determinants of adverse psychological outcomes. The result of the study showed that Posttraumatic stress (PTS) were prevalent in this sample of health care professionals, and 40.2% indicated positive screens for significant posttraumatic stress disorder symptoms. The proportion of having mild to extremely severe symptoms of depression, anxiety and stress were 13.6, 13.9 and 8.6%, respectively. Perceived threat and passive coping strategies were positively correlated to PTS and DASS scores, while perceived social support and active coping strategies were negatively correlated to DASS scores. Nurses were more likely to be anxious than others among medical care workers during the COVID-19 epidemic.

CHAPTER THREE – METHODOLOGY

3.0 INTRODUCTION AND RESEARCH DESIGN

This Chapter will address the analytical methodology used to analyze the study. This research adopts the descriptive research approcah. This descriptive research is also called statistical research. It includes surveys and fact finding enquiries of various types. The primary goal of this type of research is to to describe the data and the characteristics about what is being studied. The methods and techniques of incorporated for the purpose of this study is the survey method and case study method.

The case study method of research permits exploration and understanding of complex issues. It can be considered as a strong researcg method, especially when a holistic and in-depth investigation is required (Zainal, 2018). While the survey research method studies large and small populations by selecting and studying the samples chosen from those populations. The main purpose of this method is to discover the relative incidence, distribution and interrelations of sociological and psychological variables. Survey research is mostly devoted to the study of characteristics of the populations under investigation.

3.1.1 Research Approach and Strategy

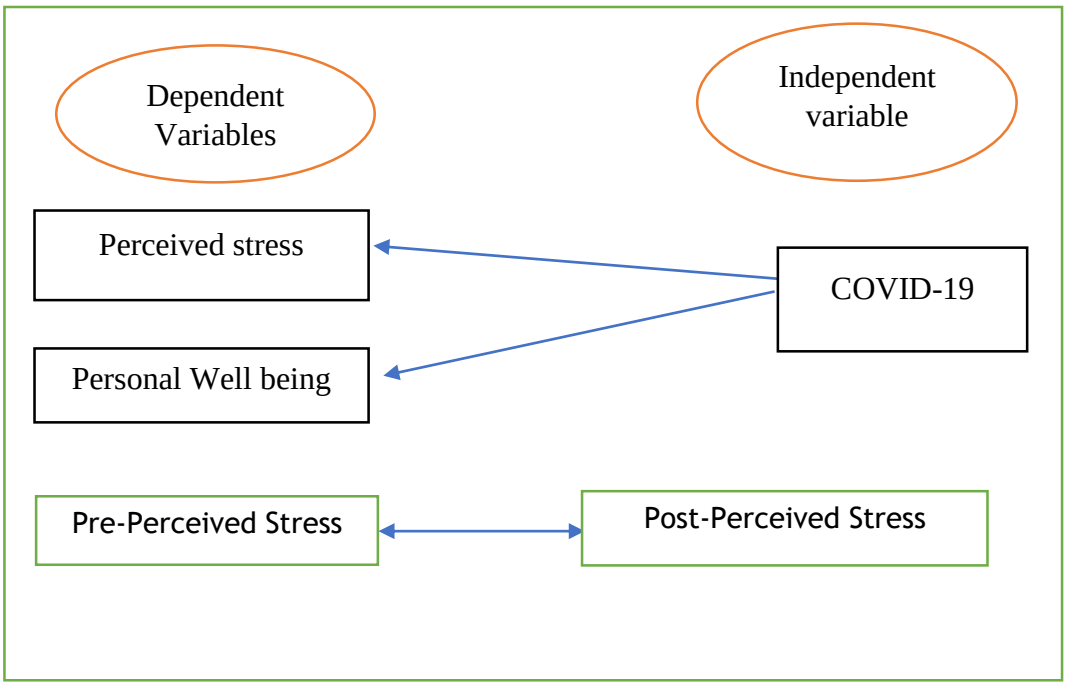
This part includes different deductive strategies used in this study. Regarding the specialized approach, it has used a deductive methodology because it is mostly used when it needs to create speculations, techniques, and theory for the examination (Bisk, 2015).

The deductive approach is a successful method for investigating the exploration questions and targets. In addition, exploration used a study as a technique to collect essential information from reliable sources associated with deductive strategies. This procedure is commonly used due to its primary and monetary technique of collecting extensive arrangements of information (Abbas et al., 2014).

3.1.2 Research Choices and Time Horizon

The present study used a quantitative approach to examine and attain the objectives of this study. The collected quantitative data are intended at studying the effect between variables for explanatory exams. There are basically Two dependent variables and an independent variable.

3.1.3 Research Framework



3.2 POPULATION UNDER STUDY

This research is focused at examining the impact of the COVID-19 pandemic on the mental status of public health professsionals. Therefore, the population understudy are mostly public health professionals especially those who were actively involved in helping out and fighting against the effect of the COVID-19 pandemic globally. Here, public health professionals includes Doctors, Nurses, Paramedics, Laboratory scientists, Pharmacist and many others who played crucial and important role during the pandemic.

3.2.1 Research Hypotheses

From the literature review, can be seen that the results have shown a mixture of positive and negative relationships. Therefore, the researcher uses H1 & H2 for the hypothesis in the study

No	Statements
$H_0$1	There is no relationship between the impact of Covid-19 and the personal well-being of public health Professionals
$H_1$1	There is a relationship between the impact of Covid-19 and the personal well-being of public health Professionals
$H_0$1	There is no significant impact of Covid-19 on the mental health of public health Professionals
$H_1$1	There is a significant impact of Covid-19 on the mental health of public health Professionals
$H_0$2	There is no difference in the perceived stress level of Public health Professionals before and during the Covid-19 pandemic
$H_1$2	There is a difference in the perceived stress level of Public health Professionals before and during the Covid-19 pandemic
$H_0$3	There is no difference in the perceived stress level among Public health Professionals during the Covid-19 pandemic.
$H_1$3	There is difference in the perceived stress level among Public health Professionals during the Covid-19 pandemic.

TABLE 1: RESEARCH HYPHOTESIS

3.3 SAMPLING TECHNIQUE AND DESIGN

The selection of the sample is important in conducting research. The ways that are implemented in the selection of the respondents will determine the population in which one may generalize the research findings. For the purpose of the study, the size of the sample is not large and the reason for this is due to the time frame required to carry out this research and the availability of the sample subjects.

In determining the sample design, one must consider the question of specific population parameters; which are of interest. For instance, one may be interested in estimating the proportion of persons with some characteristics in the population. For the sake and purpose of this research, only public health professionals were focused on, and those who were directly or indirectly, fully or partly involved in dispensing and carrying out their duties during the COVID-19 pandemic.

In order to select the subjects or populations for this research, the researcher adopted the Non-probablity sampling design approach, using the sampling method of Convenient sampling. Here the participants included in the research are those, who are convenient to approach and who are willing and readily available to participate in the research. This technique was very beneficial as it is cost-effective and flexible.

3.4 DATA COLLECTION METHOD

The task of data collection begins, after the research problem has been defined actually and the research design has been adequately formulated. The data collected in research is of two types, primary and secondary. For this research, primary data was made used

of. The primary data is the one, which the researcher collects for the purpose of the enquiry pursued. It is original in character, collected for the first time for thd given investigation.

In order to collect these data from the study population, this research adopts a quantitative method method of data collection. The quantitative method of data collection involves the collection figures, statistics and distribution of data from the study population. The research made use of the questionnairing method of data collection to be able to gather the relevant data for this research.

This questionnaire was formulated and developed via internet resource through the use of the google form application. An application which enables its users to be able to generate and create forms and sheets materials such as questionnaire, CV, resume, and several others. The URL link to the form was then generated and copied after the questionnaire had been formulated. This URL link was sent to the study population to access in order to be able to fill the questionnaire.

3.5 RESEARCH MATERIAL (QUESTIONNAIRE)

The questionnaire used in gathering information for the research was formulated and created via internet resources as earlier mentioned. The questionnaire is constructed into 6 sections, with the first section focusing on demographic information, the second sections seek to measure the respondents' knowledge of the impact of C0VID-19, the third evaluates the perceived stress level of the respondents before COVID-19, the fourth section also evaluates the perceived stress level during the COVID-19 pandemic, fifth section examines impact of COVI-D 19 on personal well being, and the sixth section evalautes the impact of COVID-19 on mental health of the respondents. In all there are 30

questions within the questionnaire survey. Section 2 to section 6 are all measured in linear scale; with 1 – Strongly disagree, 2, Disagree, 3- Neutral, 4 – Agree, and 5 – Strongly agree.

All the questions within the survey are themselves variables, but for ease of representing the fundamental variables for the research, each questions in each section will be recoded and combined together through the addition of their means to form Five variables in all.

The variables fundamental to this research are; Demographic variables, Impact of COVID-19, Perceived stress level before COVID-19, Perceived stress level during COVID-19, Personal Wellbeing, and Mental health. Asides the demographic variables, all others are measure at continuous (Numeric) level.

3.5.1 Measurement of Variables

Before the variables were subjected to computational analysis, some significant tests were carried out on them. These include; reliability test, Normality tests, and tests for Outliers. These tests are very important to the research as it ensures that data are measured at an appropraite level and are consistent so as to get the appropraite result and output when analysis have been conducted.

The Reliability test was conducted through the use of the Cronbach's Alpha test, the Normality test was done through the Shapiro-wilk and Kolmogorov-Smirnov tests of Normality while the outlier test was simply done using Box-plot computation.

3.5.1 Data Analysis Techniques

After data had been gathered, prepared and tested for reliability, normality and outlierness, the next step was Analysis. Here, the descriptive statistics of all the variables (questions)

within the survey were clearly analyzed and presented. Tables and graphs representing frequency distribution for each variables were also presented.

The next step was to provide analysis to answer the research questions and test the hypotheses of the research. The type of hypothesis and the variables involved determined the type and method of analytical procedure to be conducted. For this research, the following analytical procedure and methods were used; T-test Paired Sample, Cross-Tabulation and Linear regression. These three tests are fundamental to answering the researching research questions and testing the set hypotheses for the research. A dependent or “paired” samples t-test is used to see the difference or change between two measurement points. For the paired samples t-test, you instead have two measurements of the same variable, and you look at whether there is a change from one measurement point to the other.

The chi-square test assesses whether there is a relationship between two categorical variables. The chi-square test can be thought of as a simple cross-table where the distribution of these two variables is displayed.

The linear regression on the other hand, Linear regression is used when y is continuous (ratio/interval). If you have only one x, it is called “simple” linear regression, and if you have more than one x, it is called “multiple” linear regression. Regardless of whether you are doing a simple or a multiple regression, the x-variables can be categorical (nominal/ordinal) and/or continuous (ratio/interval).

A linear regression analysis describes the linear association between x and y. The effect that x has on y is estimated through a “Beta coefficient” – or “B coefficient”. The B

coefficient is interpreted in the following way: “for every one-unit increase in x, y increases/decreases by [the B coefficient]”. Accordingly, if you get a negative B coefficient (below 0), you say: “for every one-unit increase in x, y decreases by [the B coefficient]”, and if you get a positive B coefficient (above 0), you say: “for every one-unit increase in x, y increases by [the B coefficient]”. What the B coefficient actually stands for – and whether we can say that an effect is small or big – depends on the values of x and y.

At last, to discover how well a gathering of factors can foresee a result which it has to refer to the R square. Henceforth, the higher the R square, the stronger the independent variable to decipher the variety of the dependent variable. The general equation of linear regression analysis can be formulated as follows:

$$\mathbf{Y=B_0+B_1D + U}$$

Where Y = Dependent variable

B_0 = Constant variable

B_1 = coefficients of explanatory variables.

D = Independent variable

U = Stochastic term

Being a qualitative research, we obtained a total of 105 researches which were then filtered down to 35. The filtering was based on relevance of these researches to our topic, the quality of research, the availability of data in these reports and the removal of duplicate researches. The search for these researches were performed using a wide array of terms such as “mental health status”, “healthcare professionals”, “mental wellbeing”, “psychology

of healthcare professionals" and "psychological problems". The studies selected were original research articles and clinical reports while letter to editors, guidelines and recommendations were excluded. Time period selected for the obtained researches were from December 2019 to December 2020. Region restrictions were not implemented in order to obtain a broad and global view of the pandemic on the healthcare workers worldwide.

Both qualitative and quantitative researches were studied. Researches using reviews, cross-sectional studies, surveys and other analysis techniques were utilized to provide a better image of what and how the Covid-19 has affected the healthcare workers over a period of one year.

The analysis of the obtained reports was conducted by studying the common and uncommon traits and factors that were mentioned which led to instability in mental state of professionals.

3.5.2 Methods for Safety professionals and Policymakers in reopening of workplaces.

This is a review-based article for which 35 articles were downloaded. After careful analysis of articles 23 were found useful and the remaining were discarded. The articles were found using keywords like policy makers, back to work, safety strategies, covid-19, safety workers, workplace management, etc. These articles were carefully studied and relevant information regarding need for reopening, methods for reopening, safety protocols, standard operating procedures among covid-19 and lessons for policymakers and safety workers was extracted and used in our study.

Articles published in well off journals including both quantitative and qualitative studies were included in this review. Studies conducted using past research, surveys, participatory programs, and other means of analysis were utilized. Time period selected for the obtained research were from December 2019 to December 2020. Regional restrictions were not utilized to obtain a broad and global view of how workplaces are being operated and how the policymakers and safety workers are facing challenges and applying regulations accordingly worldwide. In the end all the obtained analysis was analyzed and compared to highlight the common factors and the distinguishing events and policies that can provide a better image of the challenges faced by the safety professionals and policymakers in reopening of workplaces.

CHAPTER FOUR – FINDINGS / ANALYSIS / DISCUSSION

4.1 FINDING

The general findings, interpretation, and discussion of the study is presented in this section. The discussions are made with respect to the literature review and framework of the study. Also, within this chapter is the summary of the various analytical findings done in the course of the study. All these will be used in providing concluding answes to the set objectives of the study as well as answering th different hypothesis which have been formulated.

The hypotheses of the research will be examined individually as well as summarized to whether to accept or reject the null or alternative hypotheses. It should be noted that rejecting and accepting of hypotheses is based on statistocal significance of each of the test conducted. The statistical significance of a test, is determined through the value of the p-value. The null hypothesis is rejected if the p-value is less than 0.05, as well as accepted if the p-value is greater than 0.05.

Studies carried out in past literature will be used in supporting or contradicting the result of this study. This is essential because it helps in making a significant conclusion about the general findings of this study.

4.1.1 Findings from Multiple Linear regression.

The general findings of the two Linear regression analyses conducted is presented graphically as seen the in the figure below, Figure 5.1. The relationship Perceived stress level and Mental health and Impact of COVID-19 can be observed in the figure. Results of

the regression analyses revealed that COVID-19 has a significant relationship as well as impact on the stress level of health professionals. It was also observed that COVID-19 has a significant relationship as well as an impact on the Mental health of health professionals.

The relationship and level of impact of COVID-19 on return on Stress level of Mental health of health professionals can be observed in the figure below

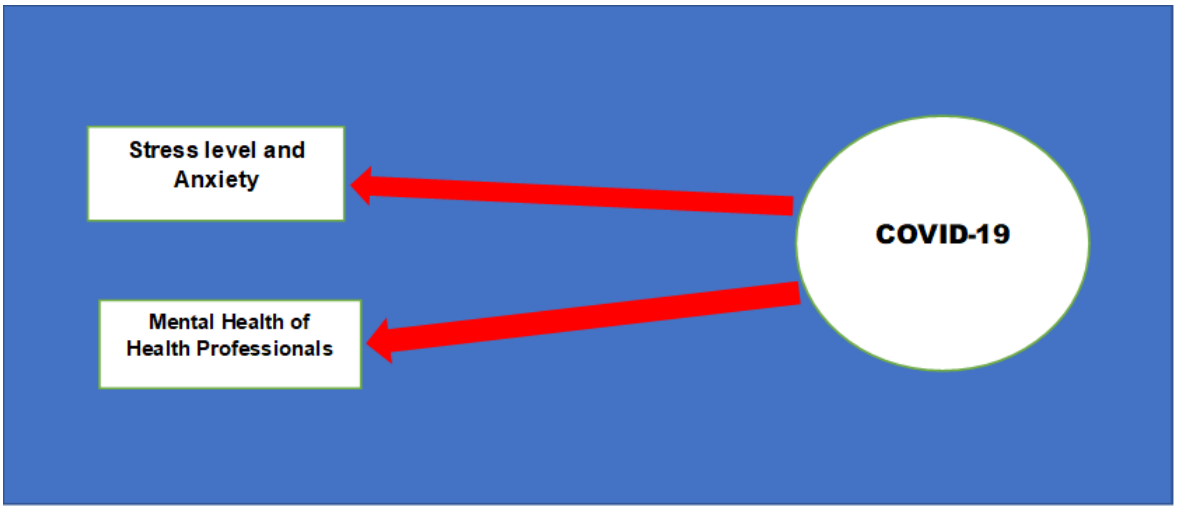


Fig 4.1 Graphical representation of the regression findings

4.1.2 Findings from Paired Samples T-test Analysis

The paired samples T-test analysis carried out in the previous section revealed that the stress level experienced by health professional before and during the COVID-19 pandemic. Findings have also revealed that perceived stress of health professionals before the beginings of COVID-19 pandemic was not as worrisome and high when compared to during the pandemic.

4.1.3 Findings from Chi-Square Analysis

The purpose of using the Chi-square test was to examine the relationship between the area of specialization of health professionals and their perceived stress level during the COVID-19 pandemic. Result/findings have however showed that there is no significant relationship between area of specialization of health professionals and their perceived stress level during the pandemic.

4.1.4 Findings from Safety Workers and Policy Makers:

All the studies discussed above had a common factor that was noted along the analysis. The studies showed and pointed towards the policymakers for having the main responsibility of getting things ready before calling back their workforce. It was unanimously considered that the provision of personal protective equipment, sanitizers, check and balance that mask is being worn in the workplace, among other items on the checklist should be checked and managed by the proper authority, whether be it the policymakers or the safety workers. They need to put proper precautions to manage and reduce the spread of Covid-19 virus in the workplace so that it should not lead to another lockdown phase globally. The safety workers and policymakers if they chose to open the workplace also have the responsibility of properly managing their workforce, as a proper mode has to be devised so that the health of all the workers is a priority, this may include partial openings, shifts, division of workforce, etc. (Ichino et al.; 2020, Delgado et al., 2020).

Pre-Opening and Post Opening:

In about 12 studies, the focus shifted from the responsibility of the authority to the fact that workers themselves also be cautious and help themselves to further boost the process of minimizing risk and spread of Covid-19 in the workplace. It was told that workers should prepare themselves before coming to the workplace properly this means cleaning their supplies and disinfecting them, proper use of mask and gloves, maintaining a safe distance from others and to avoid crowding. These are some of the responsibilities that the workers have and need to take up in order to manage themselves and better protect themselves against any form of risk. These activities do not only help prevent the spread of the corona virus but also allows a method for stress reduction as the workers may feel more safer if they took steps by themselves to ensure their saftey. (Golechha, 2020; Wong et al., 2020).

Alternatives to Re-Opening:

Different methods have been discussed in about 8 studies regarding the alternative methods that may be used for or instead of re-opening. Remote working is used quite widely during the lockdown phase however it is not an easy mode of access for everyone and not everyone has the tools and the technology to work from home. Even if this factor is neglected, we need to take into account the various industries that can only survive if workplaces are opened and the workers actually come to the proper working facility and operate the machinery. (Felstead and Henseke, 2017; WONG et al., 2020).

Another factor that some organizations have established and is found to be an effective method for the containment of Covid-19 virus is dividing the workforce based on age or dividing the workforce based on shifts. It can be devised that the safety workers create a mode of working where the elder workers, who are more susceptible to the virus and are

in greater danger of it being fatal are allowed to or told to work from home while the younger and healthier workers are called to work in the workplace where proper care is provided. In another mode similar to this, the open hours can be increased, and the workers can be divided into shifts where half the workers have to come at one shift while the others at second or third shift accordingly. This method can provide less crowding and less chance for the Covid-19 to spread. (Ichino et al., 2020).

4.1.1.1 Data Preparation

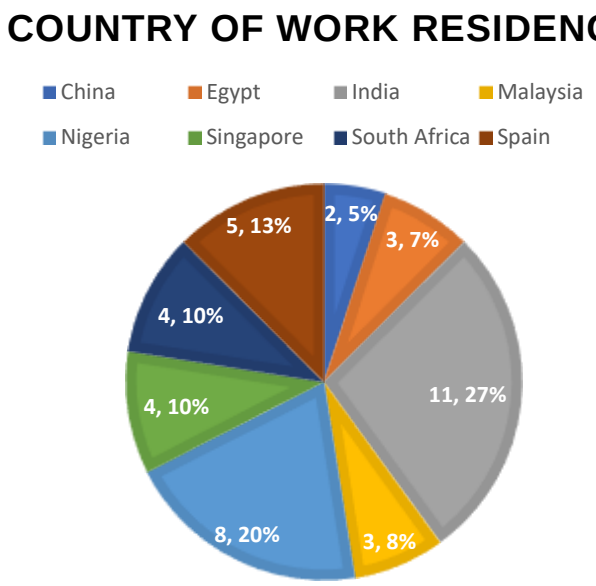
Primary data which have been gathered through the process of questionnaire surveys, were prepared through the process of data cleaning. In order to perform various analytical tasks and statistics, the data that have been gathered were recoded and recomputed as well as combined. Recoding refers to changing of variables from one form to another, such as from string to numeric or from numeric to string. While on the other hand, recomputation involves the process of combining variables which represent similar factors or subjects by the addition of their means together.

4.1.1.2 Descriptive Statistics

The frequency distribution of the responses to questions (variables) in the survey are clearly provided below in form of Tables, and Charts

4.1.1.3 Demographics

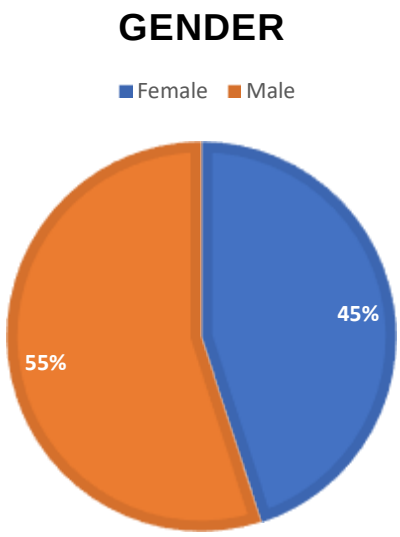
Country of work residence					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	China	2	5.0	5.0	5.0
	Egypt	3	7.5	7.5	12.5
	India	11	27.5	27.5	40.0
	Malaysia	3	7.5	7.5	47.5
	Nigeria	8	20.0	20.0	67.5
	Singapore	4	10.0	10.0	77.5
	South Africa	4	10.0	10.0	87.5
	Spain	5	12.5	12.5	100.0
	Total	40	100.0	100.0	



From the table and Pie chart displayed above showing the frequency distribution of the country of residence of the respondents, it can be observed that 11 of the respondents (27.5%) are residents of India, 8 of them (20%) are from Nigeria, 5 of them (12.5%) are from Spain, while 4 of them each (10%) are from South Africa and Singapore respectively, 3 (7.5%) from Egypt and Malaysia respectively, and 2 individuals from China.

4.1.1.4 Gender

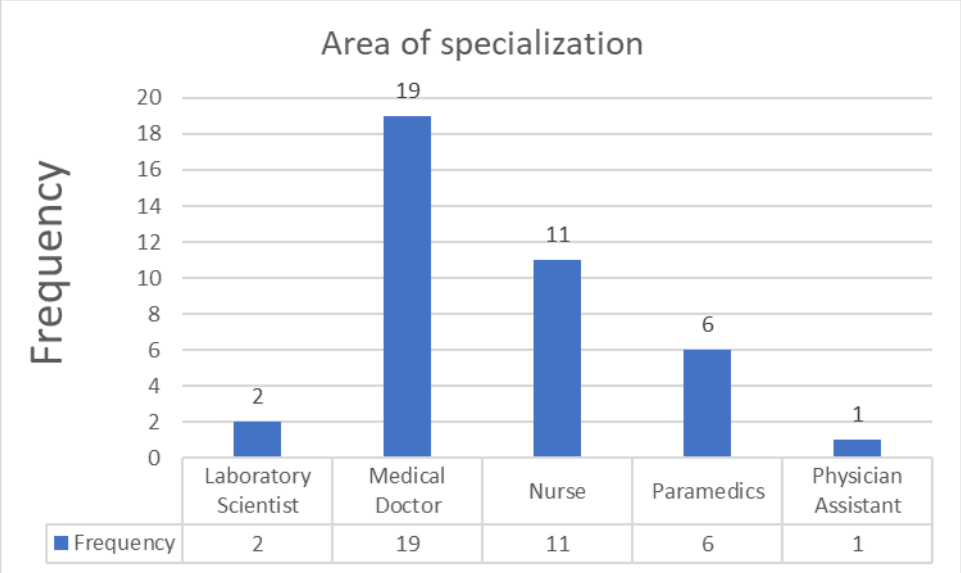
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	18	45.0	45.0	45.0
	Male	22	55.0	55.0	100.0
	Total	40	100.0	100.0	



It can be observed that a total number of 18 female health professionals (45.5%) took part in the survey, and a total number of 22 male health professionals (54.5%) took part in the survey. Thus, it is obvious that we have more Male correspondents.

4.1.1.5 Area of Specialization

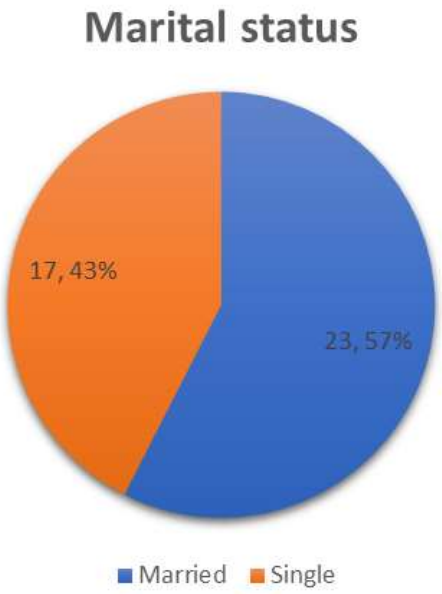
Area of specialization					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Laboratory Scientist	2	5.0	5.0	5.0
	Medical Doctor	19	47.5	47.5	52.5
	Nurse	11	27.5	27.5	80.0
	Paramedics	6	15.0	15.0	95.0
	Physician Assistant	1	2.5	2.5	97.5
	Student	1	2.5	2.5	100.0
	Total	40	100.0	100.0	



As observed from the table and Bar chat above that majority of the correspondents in the survey are Medical Doctors that make a total percentage of 47.5% of the entire sample population, while there are 11 Nurses (27.5%), correspondents who are paramedics make up 15% of the population, while 2 of the correspondents are laboratory scientists, and a student Doctor and a physician each makes (2.5%) of the correspondents respectively.

4.1.1.6 Marital Status

Marital status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	23	57.5	57.5	57.5
	Single	17	42.5	42.5	100.0
	Total	40	100.0	100.0	



As seen in the table above, it can be observed that 23 of the respondents (57.5%) are married, while 17 of them (42.5%) are single.

4.1.1.7 Impact of Covid-19

Impact of COVID-19	Number of Respondents					Sum	Mean
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		

Covid-19 is a very virulent disease		1 2.5%	2 5%	19 47.5%	18 45%	40	4.35
Death rate has increased as a result of Covid-19 pandemic		1 2.5%	5 12.5%	16 40%	18 45%	40	4.28
Covid-19 is a pandemic that is highly contagious and could possibly result to death			5 12.5%	17 42.5%	18 45%	40	4.33
Covid-19 has led to increase in admittance of patients in hospitals		1 2.5%	3 7.5%	12 60%	24 60%	40	4.47
Covid-19 has led to global demand for personal protection equipment		3 7.5%	9 22.5%	12 30%	16 40	40	4.65

The frequency distrubition of correspondents responses on their perception as regarding the impact of Covid-19 can be observed in the table above. Five questions have been set to measure correspondents perceptions on the impact of COVID-19 in general. With all questions measured in a 5-scale linearity.The distiribution of responses on the impact of COVID-19 can be observed in the table above.

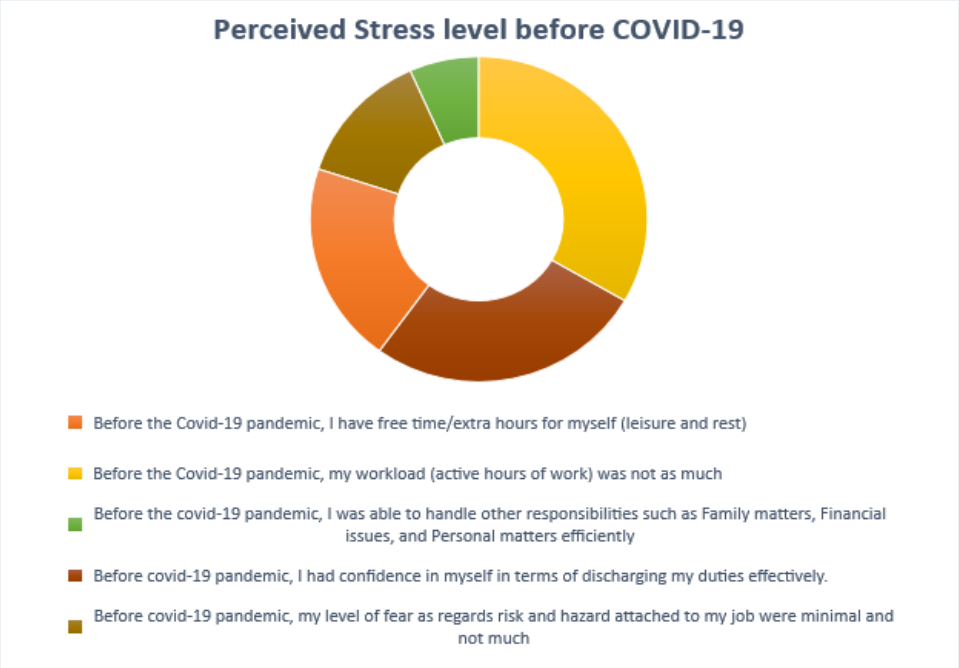
4.1.1.8 Perceived Stress level before Covid-19

The perecived stress level of health professionals before the COVID-19, that is correspondents, were measured here. Questions examining their opinon on their level of stress in their personal life, professional life, and responsibilities they are being charged with.

The frequency distribution of correspondents' responses and perception to each questions examining the form of challenges or stress which they encountered before the COVID-19 and how they have handled it are displayed in the table below.

Perceived Stress level before COVID-19	Number of Respondents					Sum	Mean
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		
Before the Covid-19 pandemic, I have free time/extra hours for myself (leisure and rest)		3 7.5%	9 22.5%	12 30%	16 40%	40	4.03
Before the Covid-19 pandemic, my workload (active hours of work) was not as much		5 12.5%	5 12.5%	13 32.5%	17 42.5%	40	4.05
Before the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently		1 2.5%	1 2.5%	7 17.5%	16 40%	40	4.08
Before covid-19 pandemic, I had confidence in myself in terms of discharging my duties effectively.		4 10%	3 7.5%	13 32.5%	20 50%	40	4.22
Before covid-19 pandemic, my level of fear as regards risk and hazard attached to my job were minimal and not much		2 5%	9 22.5%	15 37.5%	14 35%	40	4.03

4.1.1.9


Perceived Stress level before COVID-19
Before the Covid-19 pandemic, I have free time/extra hours for myself (leisure and rest)
Before the Covid-19 pandemic, my workload (active hours of work) was not as much
Before the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently
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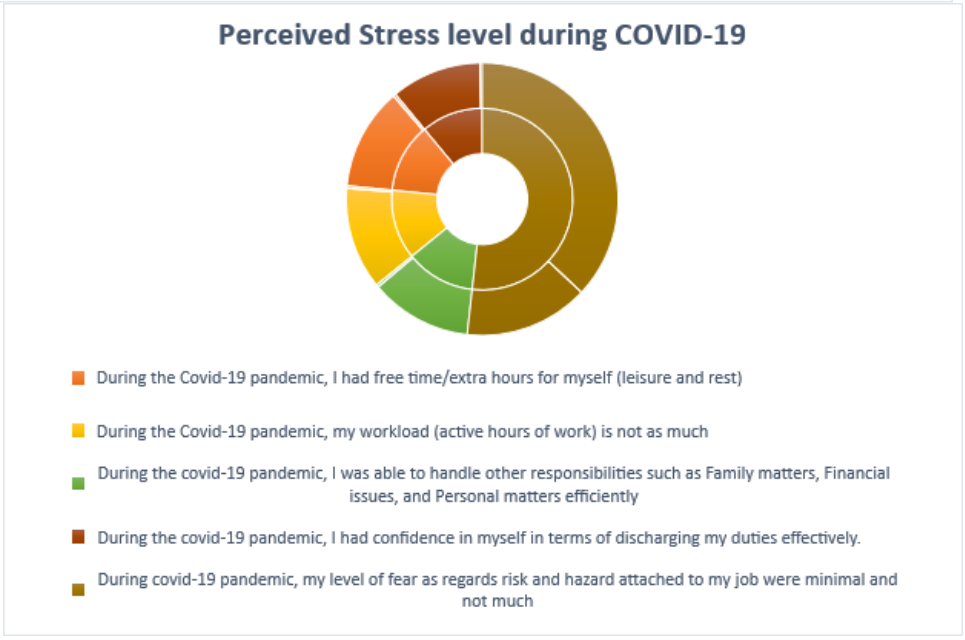

Perceived Stress level during COVID-19
During the Covid-19 pandemic, I had free time/extra hours for myself (leisure and rest)
During the Covid-19 pandemic, my workload (active hours of work) is not as much
During the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently
During the covid-19 pandemic, I had confidence in myself in terms of discharging my duties effectively.
During covid-19 pandemic, my level of fear as regards risk and hazard attached to my job were minimal and not much

Perceived Stress level during Covid-19 pandemic

Perceived stress level of professional health workers during the COVID-19 pandemic was also measured through questions focusing on their personal life, work, risk, and basic responsibilities.

Frequency distribution of the responses can be observed within the table below.

Perceived Stress level during COVID-19	Number of Respondents					Sum	Mean
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		
During the Covid-19 pandemic, I had free time/extra hours for myself (leisure and rest)	10 25%	18 45%	8 20%	3 7.5%	1 2.5%	40	2.17
During the Covid-19 pandemic, my workload (active hours of work) is not as much	9 22.5%	18 45%	10 25%	3 7.5%		40	2.17
During the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently	10 25%	18 45%	9 22.5 %	3 7.5%		40	2.13
During the covid-19 pandemic, I had confidence in myself in terms of discharging my duties effectively.	10 25%	16 40%	11 27.5 %	3 7.5%		40	2.17
During covid-19 pandemic, my level of fear as regards risk and hazard attached to my job were minimal and not much	7 17.5%	22 55	11 27.5 %			40	2.10

4.1.1.10 Personal Well-being of Health Professionals

Personal wellbeing of health professionals is examined through the five questions that have been set. These questions examines their personal activities, Risk and hazard attached to work, duration of working hours, fatigue, and personal hygiene.

The frequency distribution of correspondents' responses to these questions are displayed in the table below.

Impact on Personal Wellbeing	Number of Respondents					Sum	Mean
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		
My personal activities and schedules have been highly affected by the Covid-19 pandemic		1 2.5%	2 5%	16 40%	21 52.5%	40	4.43
Level of Risk and hazard in my line of profession have highly increased since the onset of Covid-19	1 2.5%	1 2.5%	1 2.5%	13 32.5%	24 60%	40	4.45
I work extra hours and attend to more patients especially during the onset of the covid-19 pandemic	2 5%	2 5.0%	3 7.5%	15 37.5%	18 45%	40	4.13
I have experienced more fatigue and weariness on the job especially during the Covid-19 pandemic	1 2.5%	2 5%	4 10%	16 40%	17 42.5%	40	4.15
My personal hygiene has been affected in some ways since the onset/beginning of Covid-19 pandemic	2 5%	2 5%	5 12.5 %	14 35%	17 42.5%	40	4.05

4.1.1.11 Mental Health of Health Professionals

Questions evaluating psychological and mental state of health professionals during the COVID-19 pandemic is examined in this section. Varying questions ranging from encounters with casualties of COVID-19, Stigmatization, workload, and income.

Presented in the table below are frequency distribution to these questions pertaining to the mental and psychological health of health professionals during the COVID-19 pandemic.

Impact on Mental Health	Number of Respondents					Sum	Mean
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		
I have experienced more deaths or losses of my patients during the Covid-19 pandemic	1 2.5%	2 5%	5 12.5%	14 35%	18 45%	40	4.15
I have faced stigmatization from others (family and friends) because I often come in contact with Covid-19 patients	1 2.5%	2 5%	6 15%	14 35%	17 42.5%	40	4.10
My current level of income is not commensurate with workload or level of job I am currently being face with during the Covid-19 pandemic	1 2.5%	7 17.5%	10 25%	22 55%		40	4.33
The Covid-19 pandemic period has been very challenging to me as a Public health worker	1 2.5%	2 5%	3 7.5%	15 37.5%	19 47.5%	40	4.22
I have lost loved ones and close associates to the Covid-19 pandemic	7 17.5%	8 20%	4 10%	6 15%	15 37.5%	40	3.35

4.1.1.12 Test for Reliability and Normality

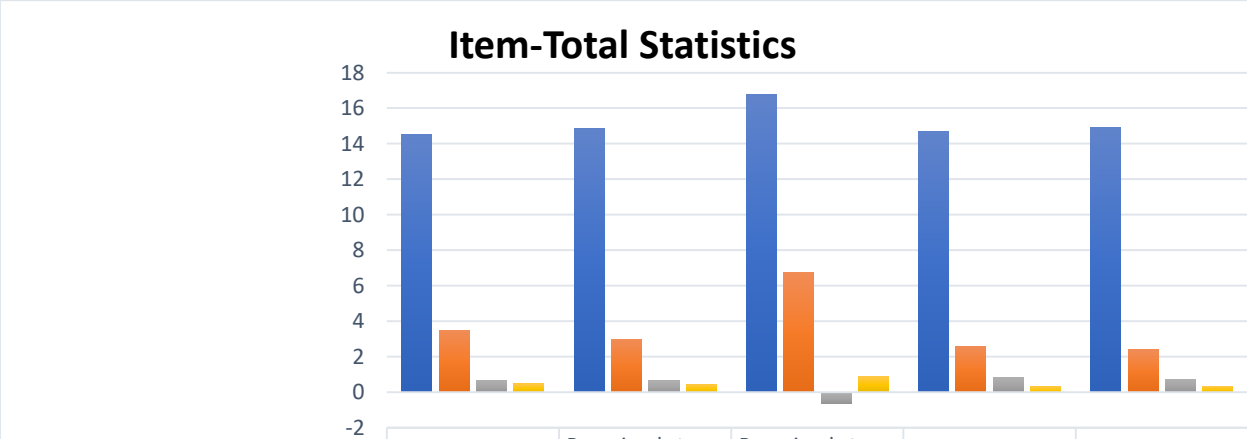
Before going further with any form of analysis, the fundamental variables necessary for the various analytical procedures are subjected to reliability and Normality tests, to examine how consistent, relaible and normal they are.

It should also be noted that questions in each variable measuring different themes of the research were recomputed and combined into single variables by simplying adding up their mean values together.

4.1.1.13 Test for Reliability

The Cronbach's alpha test is used in testing the reliabiliy and consistency of the various variables involved in this study. Variables tested include; Covid-19 Impact, Perceived stress level before Covid-19, Perceived stress level during Covid-19, Personal well-being and Mental health.

Reliability Statistics	
Cronbach's Alpha	N of Items
0.633	5



	Impactofcovid19	Perceived stress level before COVID	Perceived stress level during COVID	Personal Wellbeing	Mental health
Scale Mean if Item Deleted	14.5	14.835	16.765	14.675	14.885
Scale Variance if Item Deleted	3.499	2.984	6.757	2.58	2.373
Corrected Item-Total Correlation	0.671	0.644	-0.629	0.85	0.737
Cronbach's Alpha if Item Deleted	0.473	0.435	0.891	0.299	0.34

By simply examining the reliability statistics table it can be observed that, the Cronbach's Alpha value for the 5 variables is 0.633. Based on the rule of thumb, a value of and greater than 0.7 is regarded as reliable. But due to the nature of our study, we thus accept the reliability test of the variables.

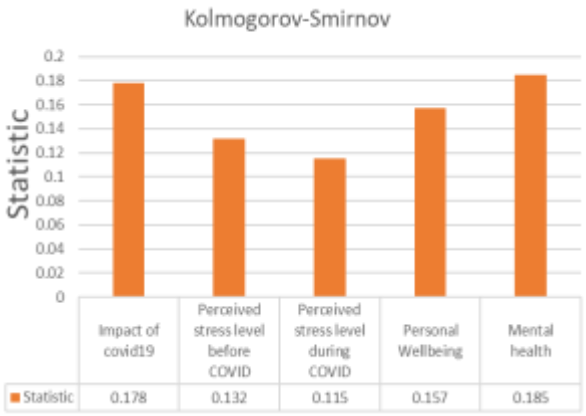
The Item total statistics tables, shows what happens to the Alpha value when each variable is deleted.

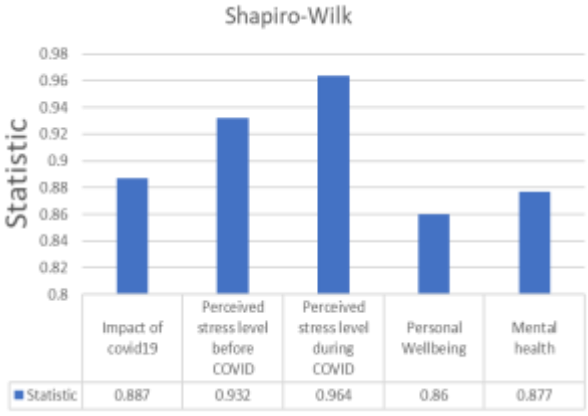
4.1.1.14 Test for Normality

The Kolmogorov-smirnov and Shapiro-wilk test were used in testing for the Normality of these variables. As can be seen in the table below, by examining the the sig. values for the two test, sig values lesser than 0.05 indicates non-normality, while sig values greater than 0.05 suggests Normality. Sine the number of cases within each variables is 40, it is best to make use of the Kolmogorov-Smirnov test.

Impact of Covid-19 variable, personal well-being and Mental health variables can all be observed not to be normally distributed due to the values of their Sig.values.

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Impact of covid19	.178	40	.003	.887	40	.001
Perceived stress level before COVID	.132	40	.079	.932	40	.019
Perceived stress level during COVID	.115	40	.197	.964	40	.235
Personal Wellbeing	.157	40	.015	.860	40	.000
Mental health	.185	40	.001	.877	40	.000
a. Lilliefors Significance Correction						





4.1.1.15 Regression Analysis and Test of Significance impact of COVID-19 on Personal well-being

The Multiple Linear regression result carried between the dependent variable, return on Asset, and the 3 independent variables (Long-Term debt Ratio, Total debt ratio, and Equity ratio) is presented in this chapter. The Model summary of the regression, Significance of the regression model and significance of the regression coefficient are all presented here.

A. Overall Goodness of Fit Model

The first step of the regression is to examine the Model summary table. Here, the main focus is the column for Adjusted R Square. The adjusted R-square or "R2" refers to amount of the variation in the dependent variable that is explained by the inclusion of the independent variable(s). The R2 value ranges between 0 and 1 – a higher value means a higher amount of explained variation. That is to say, the level of variability in personal well-being of health professionals (dependent variable) that is explained by the independent variables (impact of covid-19).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.548	.537	.51337

a. Predictors: (Constant), Impactofcovid19

By examining the Model summary table, and focusing on the R-square of the Model summary which is the amount/level of variation in the dependent variable caused by the independent variable. By moving the decimal point to places to the right, the R-squared could be interpreted as a percentage.

The R-squared here is 0.537, which means the Impact of COVID-19 is responsible for 53.7% variation/change in personal well-being of health professionals.

B. Overall Significance of Regression Coefficient

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.184	.656		-.281	.781
	Impactofcovid19	1.002	.148	.741	6.793	.000
a. Dependent Variable: Personal Wellbeing						

By examining the Coefficients table above, and focusing on the Sig column and B column, it can be observed that COVID-19 has a statistically significant impact on the personal wellbeing of health professionals.

The value of the B coefficients which is 1.002 indicates that, a unit increase in COVID-19, will significantly lead to 1.002 impact on the personal well-being of health professionals.

The Regression Model can be expressed as;

$$Y=B_0+B_1D+U$$

Where Y = Dependent variable

B_0 = Constant variable

B_1 = coefficients of explanatory variables.

D = Independent variable

U = Stochastic term

Personal Well-being = -0.184 + 1.002 (impact of covid-19) + U

Therefore, the null hypothesis can be rejected and the alternative hypothesis accepted.

4.1.1.16 Regression Analysis and Test of Significance impact of COVID-19 on Mental health

The simple linear regression is also used in examining if there is indeed a significant impact of Covid-19 on the mental health of public health professionals.

A. Overall Goodness of Fit Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657[a]	.432	.417	.68352
a. Predictors: (Constant), Impactofcovid19				

By examining the adjusted R-squared in the Model summary table, it can be observed that COVID-19 accounts for 41.7% variation/change in the mental health of public health professionals.

B. Overall Significance of Regression Coefficient

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.630	.874		-.720	.476
	Impactofcovid19	1.055	.196	.657	5.373	.000
a. Dependent Variable: Mental health						

The Coefficients table here shows that there is a statistically significant relationship between COVID-19 and the mental health of public health professionals. By examining the value of the B coefficient it can ve observed that a unit increase in the spread of COVID-19 pandemic, will result to 1.055 impact on the mental health of public health professionals. It can thus be concluded that Covid-19 pandemic has a significant impact on the mental health of public health professionals.

The null hypothesis can thus be rejected and the alternative hypothesis accepted instead.

4.1.1.17 Paired T-Test Sample Analysis

A dependent or “paired” samples t-test is used to see the difference or change between two measurement points

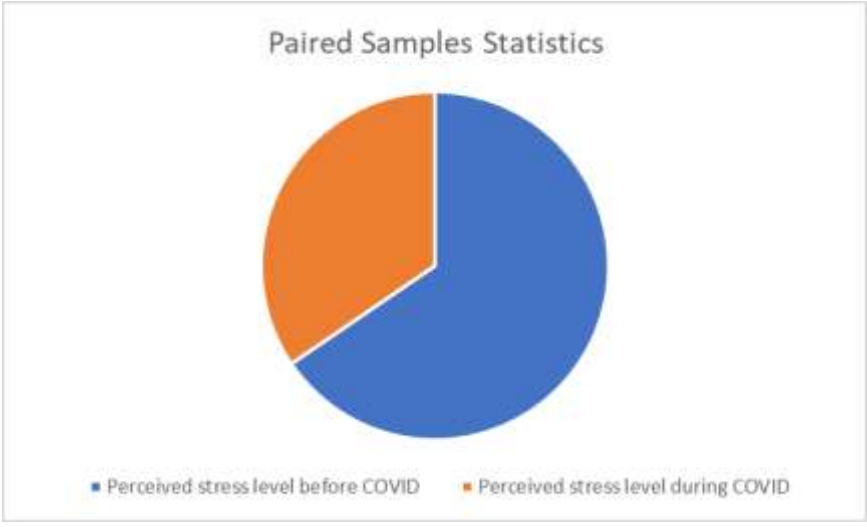
For the independent samples t-test, you were supposed to have two groups for which you compared the mean. For the paired samples t-test, you instead have two measurements of the same variable, and you look at whether there is a change from one measurement point to the other.

For this study, the difference in perceived stress level before and during the COVID-19 pandemic is analysed and determined.

A. Mean Difference and Standard deviation

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Perceived stress level before COVID	4.0800	40	.74806	.11828
	Perceived stress level during COVID	2.1500	40	.57423	.09079



By examining the means of the responses for the two variables in the Paired samples statistics table above, it can be observed that there is a difference in perceived stress level before and during the COVID-19 pandemic. The perceived stress level can be observed to be lesser before the period of Covid-19, than during Covid-19.

B. Significance of the Test

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Perceived stress level before COVID – Perceived stress level during COVID	1.93000	1.16139	.18363	1.55857	2.30143	10.510	39	.000

The Paired samples test table shows that there is indeed a statistically significant difference in perceived stress level before and during the Covid-19. It should be noted that the high mean observed for perceived stress level before COVID-19 does not necessary imply that perceived stress level before was higher. The high mean value is an indicator of the response or evaluation of stress level before COVID-19 which is positive, meaning the respondents had less stress level than during the pandemic which has a low mean value.

Therefore, the null hypothesis can thus be rejected, which states that there is no significant difference of perceived stress level before and during COVID-19 pandemic, and the alternative hypothesis accepted.

4.1.1.18 Chi-Square Test of Relationship between Area of specialization and Perceived stress level during COVID-19 pandemic

The multidimensional chi-square test assesses whether there is a relationship between two categorical variables, that is variables that are not numerical. Here however, our dependent variable perceived stress level during COVID-19 pandemic and the independent variable is Area of specialization of respondents. The aim and purpose of this test is to examine if there is a relationship between area of specialization and Perceived stress level during COVID-19. That is, if the specialization of job of the respondents has a link or determines the level of stress they encounter.

The perceived stress level for each field of specialization can be observed within the Cross-tabulation table below.

A. Cross Tabulation of Area of specialization and Level of stress

Area of specialization * Perceived stress level during COVID Cross tabulation							
Count							
		Perceived stress level during COVID					
		1.00	2.00	3.00	4.00	5.00	Total
Area of specialization	Medical Doctor	3	5	5	5	1	19
	Nurse	2	3	5	0	1	11
	Paramedics	0	1	4	1	0	6
	Student	0	0	0	1	0	1
	Laboratory Scientist	0	0	1	1	0	2
	Physician Assistant	0	1	0	0	0	1
Total		5	10	15	8	2	40

By examining the Chi-square Tests table below, focusing on the Asymptotic significance value, it can be observed that there is no statistically significant difference or relationship

between the different fields of health professionals and perceived stress level during the Covid-19 pandemic.

Thus, the null hypothesis can be accepted and the alternative hypothesis rejected.

B. Test of Significance

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.698[a]	20	.735
Likelihood Ratio	18.187	20	.575
N of Valid Cases	40		
a. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .05.			

4.2 ANALYSIS

From the different results of the analysis carried out in previous sections, some facts have been established which proves to align with previous workdone by scholars and researchers. One of the major Analysis of this study is the different level of stress experienced by public health professionals before and during the Covid-19 pandemic.

The level of stress experienced by most health professionals before the Covid-19 pandemic is that which could be regarded as normal and part of their their professional career. However, with the coming and beginning of the pandemic this has drastically changed. With the surge and daily increase of the pandemic in some parts of the globe, many of these health professionsal have been left with no choice than to put in more effort to meet this new challenges.

Some of the obligations they now make daily includes; working more hours, and shift, heeding to daily calls from their management and the authorities in times of need and so on. All these combined as contributed more to their level of stress encountered daily, weekly, and monthly.

Another finding that was established in the course of this study, is the impact of Covid-19 on the personal wellbeing of many health professionals. Majority of the participants who took part in the survey of this study have all claimed that Covid-19 have significantly affected their personal wellbeing. Personal wellbeing here refers to personal hygiene, resting outs, recreation, and extracurricular activities as well as meaning ful time with family and friends. All these have been significantly affected by the pandemic. Many of

these health professionals have forced and left with no choice than to heed and oblige to this task at hand.

Another finding that this study has established is the impact of Covid-19 on the mental health of Most health professionals. Psychologically, emotionally, and mentally, this significant population have been affected by the pandemic since its beginning. Many of the public health professionals who are actively involved in fighting, treating and, helping to prevent the spread of the virus have been faced with the reality of having to see patients die as a result of the virus, many have been emotionally challenged as a result of administering treatment to patients. The large inflow of Covid-19 patients to hospitals and the shortage of health staff in hospitals and isolation centers have put the burden on the available health workers who work more to attend to the current health challenge and need of the patients.

The spread of the pandemic has also resulted to Many health professionals being transferred from one location to another or a treatment isolation center to another with the same geographical region. This has made most of them lose contact with their families or see them less often. Many who shoulder family responsibilies have been forced to relinquish these responsibiltie to other members of their family.

This study has shown and possibly supported other previous works, and study on the impact and effect of the Covid-19 on health professionals in general. It has been established that the pandemic has not impacted on the personal wellbeing of these population but has also affected their mental status as well as drastically led to increased stress level faced by health professionals.

4.2.1 Hypotheses Testing

H_1: There is a relationship between the impact of Covid-19 and the personal well-being of public health Professionals.

To test for this hypothesis, a simple linear regression model will be used

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.548	.537	.51337
a. Predictors: (Constant), Impactofcovid19				

By examining the Model summary table, and focusing on the R-square of the Model summary which is the amount/level of variation in the dependent variable caused by the independent variable. By moving the decimal point to places to the right, the R-squared could be interpreted as a percentage.

The R-squared here is 0.537, which means the Impact of COVID-19 is responsible for 53.7% variation/change in personal well-being of health professionals.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.184	.656		-.281	.781
	Impact of covid19	1.002	.148	.741	6.793	.000
a. Dependent Variable: Personal Wellbeing						

By examining the Coefficients table above, and focusing on the Sig column and B column, it can be observed that COVID-19 has a statistically significant impact on the personal wellbeing of health professionals.

The value of the B coefficients which is 1.002 indicates that, a unit increase in COVID-19, will significantly lead to 1.002 impact on the personal well-being of health professionals.

Therefore, the null hypothesis can be rejected and the alternative hypothesis accepted.

Hypothesis 2

H_1 There is a difference in the perceived stress level of Public health Professionals before and during the Covid-19 pandemic. The paired sample T-test is used in examining if there is indeed a difference in perceived stress level between the two periods of time.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Perceived stress level before COVID	4.0800	40	.74806	.11828
	Perceived stress level during COVID	2.1500	40	.57423	.09079

By examining the means of the responses for the two variables in the Paired samples statistics table above, it can be observed that there is a difference in perceived stress level before and during the COVID-19 pandemic. The perceived stress level can be observed to be lesser before the period of Covid-19, than during Covid-19.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Perceived stress level before COVID – Perceived stress level during COVID	1.93000	1.16139	.18363	1.55857	2.30143	10.510	39	.000

The Paired samples test table shows that there is indeed a statistically significant difference in perceived stress level before and during the Covid-19.

The null hypothesis can thus be rejected, and the alternative hypothesis accepted.

Hypothesis 3

H_1: There is a significant impact of Covid-19 on the mental health of public health Professionals. The simple linear regression is also used in examining if there is indeed a significant impact of Covid-19 on the mental health of public health professionals.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657[a]	.432	.417	.68352
a. Predictors: (Constant), Impactofcovid19				

By examining the adjusted R-squared in the Model summary table, it can be observed that COVID-19 accounts for 41.7% variation/change in the mental health of public health professionals.

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.630	.874		-.720	.476
	Impact of covid19	1.055	.196	.657	5.373	.000
a. Dependent Variable: Mental health						

The Coefficients table here shows that there is a statistically significant relationship between COVID-19 and the mental health of public health professionals. By examining the value of the B coefficient it can ve observed that a unit increase in the spread of COVID-19 pandemic, will result to 1.055 impact on the mental health of public health professionals. It can thus be concluded that Covid-19 pandemic has a significant impact on the mental health of public health professionals.

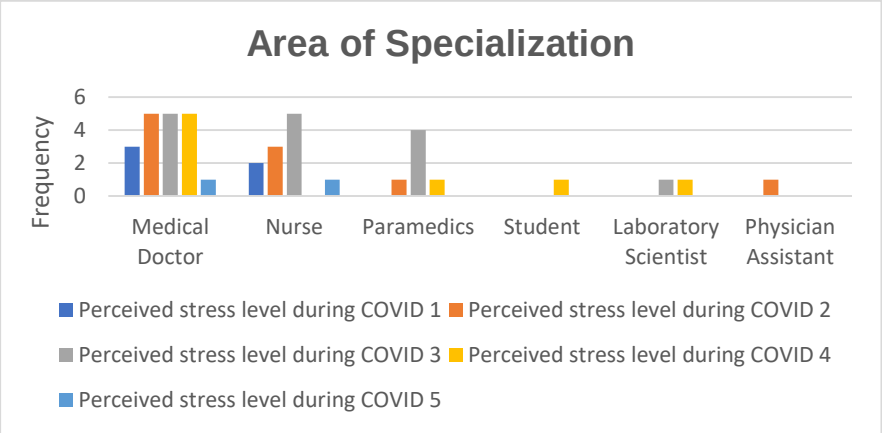
The null hypothesis can thus be rejected and the alternative hypothesis accepted instead.

Hypothesis 4

H_1: There is differences in the perceived stress level among Public health Professionals during the Covid-19 pandemic.

The perceived stress level for each field of specialization can be observed win the Cross-tabulation table below.

Area of specialization * Perceived stress level during COVID Cross tabulation							
Count							
		Perceived stress level during COVID					Total
		1.00	2.00	3.00	4.00	5.00	
Area of specialization	Medical Doctor	3	5	5	5	1	19
	Nurse	2	3	5	0	1	11
	Paramedics	0	1	4	1	0	6
	Student	0	0	0	1	0	1
	Laboratory Scientist	0	0	1	1	0	2
	Physician Assistant	0	1	0	0	0	1
Total		5	10	15	8	2	40



By examining the Chi-square Tests table below, focusing on the Asymptotic significance value, it can be observed that there is no statistically significant difference or relationship

between the different fields of health professionals and perceived stress level during the Covid-19 pandemic.

Thus, the null hypothesis can be accepted and the alternative hypothesis rejected.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.698[a]	20	.735
Likelihood Ratio	18.187	20	.575
N of Valid Cases	40		
a. 29 cells (96.7%) have expected count less than 5. The minimum expected count is .05.			

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Impactofcovid19	.178	40	.003	.887	40	.001
Perceived stress level before COVID	.132	40	.079	.932	40	.019
Perceived stress level during COVID	.115	40	.197	.964	40	.235
Personal Wellbeing	.157	40	.015	.860	40	.000
Mental health	.185	40	.001	.877	40	.000
a. Lilliefors Significance Correction						

4.2.2 Analysis from Safety Workers and Policy Makers:

i. Providing proper safety equipment

Safety equipment provides the workers with the satisfaction the administration is working for the betterment and care of the workers. It is a common factor that the places where the administration and safety worker provided sufficient personal protection equipment the workforce seemed more motivated and more productive. Whereas, in the organizations where shortage of these personal protection equipment was observed the workforce was stressed with regards to their safety as well the safety of others. This showed a great impact on the productivity as well as the quality of work done by the workers. (Muller et al., 2020; Braquehais et al., 2020; Cirrincione et al., 2020).

ii. Maintaining a sanitized environment for work

Another common factor that falls under the responsibility of the safety workers is the maintenance of a clean and risk-free working environment. The workforce that is coming to resume work should have sanitized workplace and sanitization should be provided after every few hours to minimize germ and virus transfer between individuals. This is also a recommendation provided by the World Health Organization, in order to prevent the transmission of Covid-19 virus in a re-opened workplace. (Cirrincione et al., 2020; World Health Organization, 2020).

iii. Being Cautious in Case of A Positive Test

As the workplaces start operating regularly it is inevitable that in due time someone develops symptoms regarding the Covid-19 virus. It is the duty of the safety workers to

provide such methods through which they can identify the people that were in contact with the diagnosed employee before they were shown as positive. This can help restrict the spread of the virus to others from asymptomatic as well as late developers in the workplace. This will also make it easier to identify that are a risk or are a potential carrier of the virus. (World Health Organization, 2020).

Pre-Opening and Post Opening:

I. Self-care

Self-care is still considered the best mode of preventing the onset and obtaining the covid-19 virus. This is because a person usually restricts or saves themselves from activities or avoids the places that may be a hotspot for Covid-19 virus. Furthermore, the people that practice self-care tend to use hand sanitizers, wear masks, maintain a safe distance as well as follow necessary precautions advised by the W.H.O. thus this leads to them experiencing a lower risk as compared to others in the workplace. (Teslya et al., 2020; Singh et al., 2020)

II. Social Distancing

Social Distancing was first devised to flatten the curve of the increasing Covid-19 cases. The social distancing practice allowed for reduced cases coming out and a lower rate of transmission of the virus. Its benefits have been discussed in various studies and how it has led to an effective method for flattening the curve. People in the workplace need to consider the fact that even if the workplaces are reopened, they need to practice social distancing in the workplace to avoid transmission of the virus. (Thunström et al., 2020; Lewnard and Lo, 2020).

III. Avoid Crowding

Crowding may lead to a quick transmission of the virus among a large group of people. Studies conducted based on the old age homes and other organizations have observed that the morality rate as well as the transmission rate is much higher among crowded places as compared to the places having normal or little amount of people. The workforce and the employees need to take care of the fact and take into account that it is up to them to avoid crowding in the workplace. It is also the responsibility of the authority and safety workers to ensure that crowding does not occur, they can do this via timed checks of the work area. (Brown et al., 2020; Rader et al., 2020).

Alternatives to Opening:

I. Remote Working

First alternative that comes to mind and has been discussed in various studies is the concept of remote working. Remote working has provided the people with the fact that it is possible to do a lot of work from home rather than obtaining an actual physical office place. Remote working is possible where the workers have a good understanding of what their role is and how to handle tasks. Remote working can provide the worker with minimum exposure to risks while at the same time we must consider the fact that not everyone is capable of affording work from home setups or technologies. (Felstead and Henseke, 2017; Wong et al., 2020).

II. Segregation of Workforce

Workforce can be divided into different groups based on their age. As it is known that elders are more at risk because this virus is more fatal for them due a weak immune system as compared to the youth, so the transmissions and risks can be managed by

dividing the workforce according to age. The elder and experienced people can be allowed to work from home while the youth can be called back into the workplace. Similarly, another method that can be used it to allot shifts to the workers. Different shifts at different timing can be created and can be used to divide the workforce into smaller groups. Both these methods can lead to less crowded work areas as well as less exposure for workers. (Ichino et al., 2020).

III. Limited Opening

Another method that is quite useful for limiting the Covid-19 transmission is minimizing the opening hours. The less the opening hours the less exposure the employees will experience. The safety workers can devise a step-by-step plan to slowly increase and the number of workers coming to the workplace. This will slowly allow for normalization of new safety policies regarding distancing as well as sanitization and protection.

4.3 DISCUSSION

This chapter provides and contain the findings, or rather significant observations made during the course of carrying out this research. These findings are essentially based on facts and information gotten from secondary sources through interviews and conversations. Also included in this chapter, are the interpretation of the analysis carried out on the primary data collected through the survey process. Finally, discussion of results from the analysis is presented and compared as well as backed up with previous work done by other scholars.

In the course of examining and reviewing some literature works and studies carried out by some scholars who mostly are in the health sector as well as medical practitioners, some issues were revealed. Coupled with other forms of information gathering through interviews and conversations with some public health professionals via live chats and Zoom meetings, certain findings were revealed.

Being the first point of contact in preventing and managing Covid-19, many of these health professionals have been subjected, and susceptible in contracting the virus especially in cases where care is not taken. There have been reported cases of Medical doctors and Nurses who contracted the virus from their patients. This situation therefore opens up the discussion on the welfare of health professionals especially in countries where the health sector is poorly managed.

Conversations with some of these health professionals have revealed some interesting findings and information that are quite disturbing. In chat with one of the respondents who is from India complained bitterly about the poor state of the health sector especially with

the way health professionals are being treated. He (name withheld) stated that Medical personnel in several of the major health centers in some part of his home country, India, were not adequately provided with Personal protection equipment. Those that had and were eventually supplied with this equipment's rather got them late or not time. These alone has clearly shown the manner in which health professionals carry out their tasks.

Another interesting finding that was revealed during the course of the research and from examination of previous studies are the changes which many if not all, of health professionals who were actively involved in managing the spread of the virus, now have to face and accept has the new normal and reality of their jobs. At the initial stage of the spread of the virus, many of them, health professionals, were hesitant in taking up special duties such as working extra hours, managing Covid-19 patients, and attending to more daily emergencies, and several others all because of the fear associated with contracting the highly contagious and deadly virus.

The reality of having to spend more time away from their families, loved ones, and friends was another reality that many of them had challenges in accepting. In one of the conversations with a respondent from India, who is a Nurse that was transferred to a community quite far from hers because of shortages in staff, she had to leave her aging parents as well as friends. She rarely heard from her family or saw them due to the nationwide lockdown and restriction and ban imposed by the government on transportation, traveling and movement.

Another finding that was revealed in the course of the research, is the significant effect on the change in Mental status of health professionals. Previous studies from different

researchers have revealed that health professionals have been highly affected mentally and psychologically by the pandemic since its beginning and spread. Excessive working, increase in number of inflow of patients as a result of contraction of the disease, and several others unforeseen changes in the working environment.

Some of the studies examined have focused highly on the mental and psycho-social effect of Covid-19 on health professionals. The common finding from these studies is the increase of the incidence of anxiety among health workers. Due to the new changes and work environment, many of them have to work under conditions which they are familiar with, some of them had to seek alternative means of living so as not to infect their family members in case or in situation where they themselves contract the virus. Some of the measures taken personally by health professionals include renting low-cost hotels so as to protect their families from exposure to Covid-19.

Major impact of the virus outbreak as highlighted by previous studies include; Aspecific and uncontrolled fear, pervasive anxiety, frustration and boredom, psychiatric disabling loneliness and several others.

These previous have also highlighted and identified several risk factors which health professionals are being subjected to by working in high-risk department such as inadequate PPE, close contact with patients, long daily contact hours and unprotected exposure, amidst several others. Symptoms linked with these new adaptations and working conditions include fatigue, depression, anxiety, insomnia and distress.

Other issues that have been revealed, which prove to be challenging to health workers include secondary welfare such as wages, salaries and working environments.

Conversation with some respondents have shown and revealed that that in some countries such as Nigeria, Ghana, and some other developing countries, the precedence taken on the welfare of health professionals in these countries are not quite encouraging, measures taken in combating the spread of Covid-19 virus is not efficient and comparable to that of developed countries.

In Nigeria for instance, during the Covid-19 pandemic amidst the lockdown imposed by the government, the health work force went on a nations-wide strike action as a result of the poor working conditions of health workers which includes inadequate personal protection equipment and low wages and salaries. This move, strike action, was carried out to draw the attention of the government to these pressing issues being faced by health professionals during the pandemic.

Thus, from the foregoing it can be observed that Covid-19 has had quite a large impact and effect on the health workers and professionals. Therefore, the impact of Covid-19 has been expressed and emphasized b many researchers in several of their studies.

4.3.1 Impact of COVID-19 on Personal Well-being

Personal Well being	
Objective	To examine the impact of COVID-19 on Personal well being
Question	What is the impact of on impact of COVID-19 on Personal well-being of health professionals
Hypothesis	There is a relationship between impact of COVID-19 and Personal well-being of health professionals
Results	Covid-19 has a significant impact of on perceived stress level of health professionals
Hypothesis Findings	*H_1A is accepted.* There is a positive relationship between Covid-19 pandemic Personal well-being and perceived stress level of health professionals
Supported Literature	Shreffer, Petrey, and Huecker (2020), and Misra-Hebert *et al* (2020)

Analysis that was established in the course of this study, is that the impact of Covid-19 on the personal wellbeing of many health professionals. Majority of the participants who took part in the survey of this study have all claimed that Covid-19 have significantly affected their personal wellbeing. Personal wellbeing here refers to personal hygiene, resting outs, recreation, and extracurricular activities as well as meaning ful time with family and friends. All these have been significantly affected by the pandemic. Many of these health professionals have forced and left with no choice than to heed and oblige to this task at hand.

Thus, from the findings of this study, the alternative hypothesis is accepted. This findings can be supported by the work of Shreffer, Petrey, and Huecker (2020), and Misra-Hebert *et al* (2020)

4.3.2 Impact of COVID-19 on Mental health of Health Professionals

Mental Health	
Objective	To examine the impact of COVID-19 on Mental health of Health professionals
Question	What is the impact of on impact of COVID-19 on Mental health of health professionals
Hypothesis	There is a relationship between impact of COVID-19 and Mental health of health professionals
Results	Covid-19 has a significant impact on the Mental health of health professionals
Hypothesis Findings	*H_1A is accepted.* There is a positive relationship between Covid-19 pandemic and Mental health of health professionals
Supported Literature	Natasha, Daniyal and Jumaid (2020) and Lastly, Ming *et al* (2020)

Analysis of this study has established is the impact of Covid-19 on the mental health of Most health professionals. Psychologically, emotionally, and mentally, this significant population have been affected by the pandemic since its beginning. Many of the public health professionals who are actively involved in fighting, treating and, helping to prevent the spread of the virus have been faced with the reality of having to see patients die as a result of the virus, many have been emotionally challenged as a result of administering treatment to patients. The large inflow of Covid-19 patients to hospitals and the shortage of health staff in hospitals and isolation centers have put the burden on the available health workers who work more to attend to the current health challenge and need of the patients.

The alternative hypothesis is thus accepted here, the findings of this result can be supported by the work of Natasha, Daniyal and Jumaid (2020) and Lastly, Ming *et al* (2020)

4.3.3 Perceived stress Level before and during pandemic

Perceived stress Level before and during pandemic

Objective	To evaluate the perceived stress level of health professionals before and during the Covid-19 pandemic.
Question	Is there any difference in the perceived stress level of health professionals before and during the Covid-19 pandemic?
Hypothesis	There is a relationship between impact of COVID-19 and Mental health of health professionals
Results	Covid-19 has a significant impact on the Mental health of health professionals
Hypothesis Findings	*H_1A is accepted.* There is a positive relationship between Covid-19 pandemic and Mental health of health professionals
Supported Literature	

Analysis of this study have revealed that stress level and anxiety experienced by health professionals differ before and during the pandemic. Findings have also shown the stress level were more and high during the pandemic. Thus, indicating that many health professionals were subjected to high stress, tension and anxiety and stress during the pandemic. This anyways, seems to be the obvious as the pandemic has led and resulted to an increment in patients being admitted to hospitals as well as the number of patients that needs intensive care.

The level of stress experienced by most health professionals before the Covid-19 pandemic is that which could be regarded as normal and part of their their professional career. However, with the coming and beginning of the pandemic this has drastically changed. With the surge and daily increase of the pandemic in some parts of the globe, many of these health professionsal have been left with no choice than to put in more effort to meet this new challenges. Some of the obligations they now make daily includes; working more hours, and shift, heeding to daily calls from their management and the

authorities in times of need and so on. All these combined as contributed more to their level of stress encountered daily, weekly, and monthly

The alternative hypothesis is accepted here, which is There is a relationship between impact of COVID-19 and Mental health of health professionals.

4.3.4 Area of Specialization and Perceived stress level of health professionals

Area of Specialization and Perceived stress level of health professionals	
Objective	To understand if there is a relationship between area of specialization of health professionals and perceived stress level during COVID-19 pandemic
Question	Is there any relationship between area of specialization and perceived stress level among health professionals during Covid-19 pandemic?
Hypothesis	There is a relationship between area of specialization and perceived stress level among health professionals during Covid-19 pandemic
Results	There is no relationship between area of specialization and perceived stress level among health professionals during Covid-19 pandemic
Hypothesis Findings	*H_1A is rejected.* There is no significant relationship between area of specialization and perceived stress level among health professionals during Covid-19 pandemic
Supported Literature	

Lastly, this study has revealed that there is no significant relationship between the level of perceived stress and the area of specialization of health professionals. That is to say, the perceived stress level observed is not dependent on the different specializations of these workers. Thus, this study contradicts other studies such as that of Lastly, Ming *et al* (2020) who found out that Nurses were more likely to be anxious than others among medical care workers during the COVID-19 epidemic.

4.3.5 Factors related to aggravated levels of psychological problems:

Previous studies and research carried out by scholars in the field of health on the impact of Covid-19 on health professionals has clearly shown the same trend and fact that the health workers since the beginnings of the pandemic have been subjected to all forms of stress. Many of these studies have highlighted the new changes and challenges which health professionals such as Medical doctors, Nurses, Laboratory scientist, Paramedics and several have to come in terms with.

1. Exposure

2 of the researches shed light on the exposure levels with Covid-19 and its relation with developing Psychological issues stated that the level of exposure of an individual to Covid-19 patients is directly related to almost each psychological issue. This means the more exposed a healthcare professional is to Covid-19 patients and the more patient they treat the level of symptoms like depression, anxiety, stress among other will be higher. (Liu et al., 2020; Wong et al., 2020)

2. Pre-existing conditions

A few studies also focused on pre-existing conditions. Emergency workers and emergency clinicians are exposed to tough conditions on a daily basis. Such events can lead to problems and psychological issues. Studies suggested that conditions which existed before the outbreak can be aggravated by exposure to Covid-19 patients. In many cases the problems were increased, and the mental distress was higher after the outbreak as compared to before.

3. Fear

Fear was seen in 4 researches that provided a mental burden on a lot of healthcare professionals. The fear was related to them being a transmitter for the disease into their household and their circle. Thus, some researches focused on how these healthcare professionals were not only burdened by the thought and wellbeing of their own health but also the well-being of their loved ones. (Muller et al., 2020; Despoina and Chrysoula, 2020; Liu et al., 2020; Braquehais et al., 2020).

4. Absence of equipment

Absence and shortage of equipment was also a major problem for the psychological health of healthcare professionals. In accordance with 2 studies, Inadequate training and shortage of equipment led the healthcare worker to be fearful of their wellbeing and these factors were further aggravated by the feelings of helplessness that these factors induce in healthcare workers. (Braquehais et al., 2020; Wong et al., 2020).

5. Loneliness

It was also concluded in the Italian study that healthcare professionals that were on long calls and were distanced from their family and friend felt feeling of loneliness and had elevated levels of sadness, depression, and suicidal tendencies as compared to when they were being allowed to meet them. (Di Tella, Romeo, Benfante and Castelli, 2020)

6. Gender

3 researches stated that the amount of influence that Covid-19 had on was affected by the gender of the professional working with the patient. It was seen that females were more prone to being in mental distress after treating Covid-19 patients as compared to male counterparts. (Muller et al., 2020; Di Tella, Romeo, Benfante and Castelli, 2020; Badahdah et al., 2020)

7. Relationship status

1 research also focused on the effects of the relationship status of healthcare professionals and how their personal lives affects their tendency to develop psychological problems. Married workers were more resilient and less prone to these problems as compared to the single workers. (Di Tella, Romeo, Benfante and Castelli, 2020).

4.3.6 Common findings of lowered mental wellbeing among healthcare workers:

1. Depression

About 50% of the healthcare professionals treating Covid-19 patients in China, on which a survey was implemented showed signs of having depression. Apart from this other researches focused on both the review of other articles as well as survey in other regions like Italy showed depression to be one of the most common symptom among healthcare professionals dealing with Covid-19 patients. (Wong et al., 2020; Despoina and Chrysoula, 2020; Chirico, Nucera and Magnavita, 2020)

2. Moral Dilemma

The Italian study states that moral dilemma in regions where there are high number of cases and lower number of resources suffer from psychological cases related to moral dilemma. Such situations call on the healthcare providers to make a judgment on who to treat and who to utilize the limited resources on. Such decisions lead to moral injuries that weigh on the conscious of the healthcare worker thus creating problems for them. (Chirico, Nucera and Magnavita, 2020; Wong et al., 2020)

3. Anxiety

Reported from a survey conducted on healthcare professionals treating Covid-19 patients in China, about 45% of the professionals administering the patients were found to be diagnosed with anxiety. Anxiety related to illness, the socio-economic problems that rise with the ailment and the isolation and quarantine process was seen in various studies and how it has affected the mental health of professionals. (Wong et al., 2020; Brooks et al., 2020; Fiorillo and Gorwood, 2020; Shah et al., 2020; Shigemura et al., 2020)

4. Distress

70% of the healthcare professionals surveyed showed symptoms of mental distress. This number was much higher as compared to previous pandemics. Distress was in form of mental burden and mental unease affiliated with taking on the risk. (Wong et al., 2020; Muller et al., 2020)

5. Burnout

Burnout was affiliated with the hazards of overwork and high levels of workload that were put onto the healthcare professionals. Furthermore, inadequate resting times as well as lowered levels of rest and family time also contributing to the healthcare professionals feeling tired and exhausted both mentally and physically. (Lancee et al., 2008; Maunder et al., 2006; Park et al., 2018; Chirico, Nucera and Magnavita, 2020; Gupta and Sahoo, 2020; Chen et al., 2020).

6. Post-traumatic Stress

Researches focused on the prevention of Post-Traumatic stress disorders stated that in history it has been seen that the healthcare workers that were the frontline defense against the pandemics suffered from PTSD at some point in their lives after the pandemic. They focus on how it is important for them to protect the healthcare workers against such

complications as it may further become a problem while performing their duties. This stress disorders are directly related to the number of deaths witnessed over time with respect to a pandemic and considering the Covid-19 it has one of the highest death tolls when compared to past pandemics. So, it is crucial to help out the healthcare workers with their stress management issues. (Taylor, 2019; Di Tella, Romeo, Benfante and Castelli, 2020; Chirico, Nucera and Magnavita, 2020)

7. Helplessness

A few researches also state how healthcare professionals find themselves feeling helpless in the face of adversity and how the other factors further aggravate this feeling. Becoming a patient themselves or receiving inadequate responses from higher authorities lead these workers to feel helpless in critical situations. (Rana, Mukhtar and Mukhtar, 2020; Zheng, 2020).

8. Public Image

Research also shed light on how doctors are influenced by how the public views them. A research concluded that some doctors in Pakistan are hesitant to look for professional psychological help as it may be deemed bad by the public. Similarly, Gupta and Sahoo also stated that many doctor's mental wellbeing is also affected by the social factors and how the public views them. (Rana, Mukhtar and Mukhtar, 2020; Gupta and Sahoo, 2020).

9. Proper Training

There is a need for proper training as well as educating people regarding the proper safety procedures and standards that have been set out by the boards, safety workers, policymakers as well as the W.H.O. The safety worker should provide proper training to the workers so that they can get normalized with the new policies and working conditions so that they may be able to return to work with proper motivation and productivity

10. Realization of Facts

It is important that both the safety workers and the workforce understand the facts surrounding covid-19. They need to understand the importance of re-opening workplaces and the importance of properly managing a workplace in the Covid-19 era. This can lead to a better understanding of the problem as well as a better motivation to follow the advised policies by the safety workers.

11. Proper Method of Re-opening

Policymakers and safety workers should devise a proper plan for the re-opening of workplace. They need to decide upon the best method for their organization. Some organizations cannot afford partial openings or shift system, so they need to implement better safety precautions. Similarly, different organizations have different needs. The safety workers need to understand and identify these and make re-opening plans accordingly.

12. Safety Measures

Policymakers must take safety measure before as well as after reopening their workplaces. Before opening they need to ensure their workplace is properly sanitized and disinfected. They must also ensure proper conditions to provide distance between workers when they come back to work. After re-opening proper sanitization needs to be conducted before and after work times to ensure maximum safety and minimum risk. Different measures such as implementing distancing between employees in the workplace or addition of mask and gloves as a part of uniform or a standard for entry.

13. Other Precautions

Other precautions that the safety workers need to start are temperature checks to ensure that no employee is developing a fever as fever is one of the leading symptoms of Covid-19. The safety workers can also assign task forces and teams dedicated to ensuring that standards are met, and no one is going against policies laid out by them. They can also ensure a safe distance is maintained and unnecessary crowding is avoided.

CONCLUDING

5.1 CONCLUSION

The findings of this study has shown that the Covid-19 pandemic has not only affected the general population but has also significantly impacted on the health work force. This significant population are majorly the first line of contact and action in fighting, treating and preventing this deadly pandemic. Their personal, social, and professional lives have directly and indirectly since the beginning of the pandemic. One of area which they have really been affected is their pschyologically and mental well-being (Mental health status). It is not a new thing that the health profession and health workforce population encounter challenges relationg to stress, fatigue, psychological and emotional stress. All these in one way or the other have significantly changed since the surge of the pandemic globally.

COVID-19 pandemic has had a significant mental health impact on public health professionals in Singapore. The frontline workers have direct contact with the COVID-19 patients and, as a result, increase their risk of contracting the disease. The stigmatization that the healthcare workers have experienced from the community has had a negative impact on their mental health. Most have shown symptoms of stress, depression, and anxiety. The lack of enough precautionary measures by the health institutions has also been identified as a major stressor in the health sector. The health professionals fear that the lack of critical measures to protect them may expose them greatly to the virus. Thus, it becomes a source of mental health problems. Additionally, those with a history of mental health problems and also have family members with chronic diseases exhibit high levels of mental health issues. They may experience recurrence of mental illness episodes and

at the same time fearing to pose a threat to the chronic patients in their families. Moreover, nurses have shown a higher likelihood of having mental health illnesses since they interact more with the patients. It is important to deal with the mental health problems among the frontline workers to help them perform their duties effectively.

Emergency medicine acts as a protector of society in adverse conditions. The healthcare workers have become vulnerable to psychological health conditions due to Covid-19 global health crisis. Efforts are required to aid these workers in facing the ongoing challenges of mental stress and fatigue. It is also recommended that the policy maker create better training techniques and strategies to spread the workload in a more efficient manner. It is also our duty to not judge these healthcare workers on the basis of developing such conditions while helping the community so that it can be easier for them to seek professional help without the stigma of being judged by the public. Future studies related to result of interventions need to be conducted to provide a better pathway to create models and techniques to prevent mental conditions from developing in healthcare workers.

Health professionals are now being faced with the new normal of their work environment, which involves working extra hours, and shift, seeing and staying less in touch with their familie and friends, less personal time for themselves and less extra curricular. Due to these new challenges being faced by health professionals the following recommendations have been made.

5.2 RECOMMENDATION

Due to the challenges posed by the Covid-19 pandemic on the personal wellbeing and mental status of health professionals, the following recommendations have been made and provided to better and improve the working conditions and wellbeing of health professionals in general.

Provision of Mental Rehabilitation Facilities: Mental rehabilitation facilities and programs need to be set up so as to access, examine, as well as evaluate the Mental wellbeing of health professionals and provide possible care to those in need of it.

Employing more Medical personnels and Professionals. More hands need to be brought in and employed especially in times like this when there are significant shortage of health professionals in several countries across the globe. Government authorities needs to implement policies to ensure that the health population workforce are taken care of and provided the condusive social environment in carryout their task

Work rotation is required. Work rotation is a necessity in current conditions. The burden on the healthcare workers is unimaginable as the cases related to Covid-19 are increasing on a daily basis. Work rotation strategy needs to be provided in order to ease this burden laid on them. Work rotation will provide these workers with ample resting time and will reduce their individual exposure to the patients.

Call to policymakers and upper authority. The policy makers and the upper authority needs to focus on providing better strategies related to training and handling of its workers in such stressful situations. They need to provide proper training and give the workers a full picture of what should be done in certain conditions. The policymakers also need to

provide proper amount of personal protection equipment as the shortage of equipment was found to be related to anxiety and stress for a lot of these workers.

Very few post interventions studies. During this research in which we analyze various reports. It has been seen that a lot of reports discuss the risks and the implications that are born due to such conditions during a pandemic and how interventions are important. However, very few provided literature and research on the effects of these interventions after they had been implied. Studies regarding the results of interventions need to be conducted to provide a better view of how to manage interventions and how to better them so that future healthcare professionals and individuals can benefit from such studies.

Covid-19 was primarily tackled using lockdowns and social distancing practices. This was done mostly to quickly stabilize the increasing cases and to flatten the curve of Covid-19 itself. However, it has become advent that such conditions put a hard strain on the economy and may cause a long-lasting recession. To counter this, it is the time to reopen the workplaces. However, this stress regarding the reopening is mostly on the safety workers and the policymakers. They need to manage proper training as well as they need to provide proper work environment that minimizes risk for workers as well as increases the productivity.

For this they need to learn from the different organizations already opened as well as the recommendations provided by proper body, i.e., W.H.O. When both these are combined, they can provide the safety workers with a better idea as well as a better outlook on how to better manage their workplace. However, this is not just a onetime process but in fact a long continuing one in which the safety workers first must provide safe environment for the

workers to return and then they need to make checks to ensure that no employee is acting against the policy to ensure the safety of health of other employees.

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1. QUESTIONNAIRE

Section 1
Demographic Information

1. Country of work/residence _____

2. Gender
- Female
- Male
- Prefer not to say

3. Area of specialization
- Medical Doctor
- Nurse
- Paramedics
- Other: _____

4. Marital status
- Single
- Married
- Divorced
- Other: _____

5. Are you professionally active during or after the Covid-19 pandemic?
- Yes
- No

6. If yes, how active were you during the Covid-19 pandemic?
- Daily
- Weekly
- Monthly

Section 2

Covid-19 impact/effect. Response to questions is measured on a Linear scale (1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree)

1. Covid-19 is a very virulent disease

   Strongly disagree 1 2 3 4 5 Strongly agree

2. Death rate has increased as a result of Covid-19 pandemic

   Strongly disagree 1 2 3 4 5 Strongly agree

3. Covid-19 is a pandemic that is highly contagious and could possibly result to death

   Strongly disagree 1 2 3 4 5 Strongly agree

4. Covid-19 has led to increase in admittance of patients in hospitals

   Strongly disagree 1 2 3 4 5 Strongly agree

5. Covid-19 has led to global demand for personal protection equipment

   Strongly disagree 1 2 3 4 5 Strongly agree

Section 3

Perceived Stress level before Covid-19 pandemic. Response to questions are measured on a Linear scale (1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree)

1. Before the Covid-19 pandemic, I have free time/extra hours for myself (leisure and rest)
   Strongly disagree 1 2 3 4 5 Strongly agree

2. Before the Covid-19 pandemic, my workload (active hours of work) was not as much
   Strongly disagree 1 2 3 4 5 Strongly agree

3. Before the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently
   Strongly disagree 1 2 3 4 5 Strongly agree

4. Before covid-19 pandemic, I had confidence in myself in terms of discharging my duties effectively.
   Strongly disagree 1 2 3 4 5 Strongly agree

5. Before covid-19 pandemic, my level of fear as regards risk and hazard attached to my job were minimal and not much
   Strongly disagree 1 2 3 4 5 Strongly agree

Section 4

Perceived stress level during the Covid-19 pandemic. Response to questions are measured on a Linear scale (1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree)

1. During the Covid-19 pandemic, I had free time/extra hours for myself (leisure and rest)

   Strongly disagree 1 2 3 4 5 Strongly agree

2. During the Covid-19 pandemic, my workload (active hours of work) is not as much

   Strongly disagree 1 2 3 4 5 Strongly agree

3. During the covid-19 pandemic, I was able to handle other responsibilities such as Family matters, Financial issues, and Personal matters efficiently

   Strongly disagree 1 2 3 4 5 Strongly agree

4. During the covid-19 pandemic, I had confidence in myself in terms of discharging my duties effectively.

   Strongly disagree 1 2 3 4 5 Strongly agree

5. During covid-19 pandemic, my level of fear as regards risk and hazard attached to my job were minimal and not much

   Strongly disagree 1 2 3 4 5 Strongly agree

Section 5

Impact of Covid-19 on Personal well-being. Response to questions are measured on a Linear scale (1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree)

1. My personal activities and schedules have been highly affected by the Covid-19 pandemic

   Strongly disagree 1 2 3 4 5 Strongly agree

2. Level of Risk and hazard in my line of profession have highly increased since the onset of Covid-19

   Strongly disagree 1 2 3 4 5 Strongly agree

3. I work extra hours and attend to more patients especially during the onset of the covid-19 pandemic

   Strongly disagree 1 2 3 4 5 Strongly agree

4. I have experienced more fatigue and weariness on the job especially during the Covid-19 pandemic

   Strongly disagree 1 2 3 4 5 Strongly agree

5. My personal hygiene has been affected in some ways since the onset/beginning of Covid-19 pandemic

   Strongly disagree 1 2 3 4 5 Strongly agree

Section 6

Impact of Covid-19 on Mental health. Response to questions are measured on a Linear scale (1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree)

1. I have experienced more deaths or losses of my patients during the Covid-19 pandemic
    a. Strongly disagree 1 2 3 4 5 Strongly agree
2. I have faced stigmatization from others (family and friends) because I often come in contact with Covid-19 patients
    a. Strongly disagree 1 2 3 4 5 Strongly agree
3. My current level of income is not commensurate with workload or level of job I am currently being face with during the Covid-19 pandemic
    a. Strongly disagree 1 2 3 4 5 Strongly agree
4. The Covid-19 pandemic period has been very challenging to me as a Public health worker
    a. Strongly disagree 1 2 3 4 5 Strongly agree
5. I have lost loved ones and close associates to the Covid-19 pandemic
    a. Strongly disagree 1 2 3 4 5 Strongly agree