

# Physical Impact of COVID-19 Pandemic on the Performance of Nursing Staff of Mid Atlantic Wellness Institute, Bermuda

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**Abstract:** ***Aim:** This paper aims to explore the lived experience of the nursing staff of Mid-Atlantic Wellness Institute, Bermuda on the physical impact of COVID- 19 on the performance of their duties. **Design:** A qualitative Phenomenological study design adopting Husserl's Phenomenological Philosophical framework. **Methods:** A Qualitative research method using Phenomenology Paradigm was employed to explore the lived experience of the participants on the phenomenon under study. Twelve Participants were recruited for the studies who were Registered Nursing Staff at the Mid-Atlantic Wellness Institute, Bermuda. One-on-One interview using an interview guide was used for data collection and Colaizzi's descriptive phenomenological method was used for the description of the data and NVivo 12 Software was used to analyze and manage the data. **Results:** Seven themes emerged from the research question. The themes include physical response to COVID- 19, experience with hand hygiene, experience with PPEs, the positive and negative effects of COVID- 19 on the performance of nursing duties, diagnosis with COVID- 19 during the pandemic, admission, and isolation of staff with COVID- 19, and COVID-19 vaccination status. To this end, the study revealed that the participants' experienced the physical Impact of COVID-19 on the performance of their duties during the heightened Pandemic period.*

**Keywords:** Physical Impact, COVID- 19 pandemic, Nursing staff, Mid Atlantic Wellness Institute-Bermuda, Personal Protective Equipment (PPE), Post-traumatic stress disorder

## 1. Introduction

The novel Coronavirus (COVID-19) pandemic has devastated the world like no other disease before affecting all aspects of human endeavors. First, declared a public health emergency on January 30, 2020, by the World Health Organization (WHO, 2020) as a pandemic on March 11, 2020. With estimated cases of 757 million, 650million, and over 6.8 million deaths across the globe with over 200 countries affected including Bermuda (World Health Organization, WHO, February 21, 2023). Similarly, Nurses as important frontline healthcare workers perceived the physical, social, and mental effects of the pandemic. The level of uncertainty about the nature of this pandemic has led to manifestations of anxiety, panic attack, somatization, depression, suicide ideation, and post-traumatic stress disorder (PTSD) amongst healthcare workers including nurses. Similarly, Hayat, K. et al (2021) reported that the COVID-19 pandemic has significantly affected the mental health status of frontline healthcare workers and their performance capabilities. Additionally, the metamorphosis of the infection into different variants has added more stress to the global health community. Despite its smallness in land mass and population (19 square miles and approximately 62000 according to population census estimate as of February 2023, www.gov.bm/bermuda-census), Bermuda as a tourism destination got its share of the COVID-19

pandemic. As of March 31, 2023, Bermuda has had 18, 860 cases, with 18, 685 recovered and 165 deaths. Furthermore, the Bermuda Government COVID-19 vaccine report as of March 31, 2023, indicated that 132, 650 doses of vaccine were administered in Bermuda, out of which 74.4% had two doses and 75.5% had one dose, females account for 52% of the recipients and male 48%. Overall, the medical community in Bermuda was apprehensive and panicky in the early stage of the pandemic due to the fear of the unknown. Additionally, there is no documented study on the impact of Covid-19 in Bermuda on nurses' and other healthcare professionals' work-related activities. For this reason, this study aimed at exploring the physical impact of COVID-19 on the performance of professional duties of nursing staff at the Mid-Atlantic Wellness Institute, in Bermuda.

The coronavirus (COVID-19) pandemic has taken the world by surprise causing the global scientific community to scramble for an ultimate solution. The frontline healthcare workers especially nurses awakened to the rude realities of managing large numbers of sick individuals across the globe. The stress associated with work overload during the COVID-19 pandemic exposed frontline healthcare workers to stress-related physical and mental challenges in the form of physical exhaustion, anxiety, depression, and post-traumatic stress disorders (Shreffler et al, 2020). During the October 2020, world mental health day program, the WHO

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Director-General reaffirmed the impact of the COVID-19 pandemic on individuals' mental health and the stress placed upon mental healthcare facilities. Furthermore, the demand for nursing services overwhelmed the nurses exposing them to physical, psychological, and social stresses.

Similarly, a study conducted in England and Scotland by Serrano-Alarcom et al (2021) utilizing General Health Questionnaire (GHQ-12) indicated that the COVID-19 pandemic lockdown protocols greatly affected the physical and mental health of the public along with healthcare professionals especially nurses who experienced sudden changes in job routines. This is true with the Bermuda situation, where the COVID-19 pandemic lockdown in 2020 brought increased hospital admissions of people with psychosocial traumas, such as anxiety, boredom, insomnia, and feelings of being overwhelmed. Equally, Mental Health America (MHA, 2021) reported that out of 1119 health workers surveyed in America 93% indicated experiencing stress, 86% reported anxiety, 76% reported exhaustion, and 75% indicated being overwhelmed. However, in Bermuda, there are no such data to indicate the magnitude of the physical impact of the COVID-19 pandemic on the nurses. For this reason, this study is to describe the physical impact of the COVID-19 pandemic on the performance of nursing staff at the Mid Atlantic Wellness Institute, in Bermuda.

#### ***Physical Impact of COVID-19 on the Performance of nursing staff***

The long-extended work hours spent by nurses in high-risk areas, coupled with the adornment of personal protective equipment (PPE) during that time make them susceptible to physical challenges. In a cross-sectional study involving 41 healthcare workers, Shaukat, et al (2020) pointed out that, 97% reported skin damage with the nasal bridge most affected (83.1%). Other symptom includes dryness and desquamation (70.3%) associated with prolonged PPE usage and frequent hand washing in between patients. Similarly, PPE shortage and the supply of low-quality PPE were some of the challenges faced by healthcare workers during the COVID-19 pandemic (Razu, R. S.2021). Additionally, utilizing the Maslack Burnout Inventory-Medical Personnel (MBI) Shreffler, et al (2020) reported on the problem of burnout syndrome resulting from physical exhaustion amongst 220 healthcare workers at the Oncology unit during COVID-19. The results indicated lower levels of burnout in the study subjects compared with those working in other units, which they attributed to perceived control over the situation. In another study, Park & Quising (2020) pointed out that, COVID-19 protocols on social distancing and quarantines have resulted in physical inactivity and poor eating habits leading to various medical and metabolic syndromes. To this end, they suggested regular physical activity and adequate nutritional intake to help ward off the effects of COVID-19 infection and to avoid the use of alcohol and other psychoactive substances as coping mechanisms. Furthermore, Guynup (2021) reported that coronavirus could result in decreased sexual drive in men because of the damage to the endothelial cells lining the blood vessels that supply the penis leading to poor oxygenation and poor erection. Similarly, the study indicated that testicles served as a good reservoir for viruses

including coronavirus, which explained the reason why men complained of pain in the testicles (Guynup, 2021).

## **2. Methods**

A qualitative phenomenological study was adopted to explore the physical impact of the COVID-19 pandemic on the performance of the nursing staff of Mid Atlantic Wellness Institute (MAWI) Bermuda. Furthermore, the design will help to give a vivid description of the lived experience of the study subjects better than a comparative research design that only makes comparisons between groups. Equally, Gadamer (2004) pointed out that, in Husserl's phenomenological philosophical framework the researcher suspends their judgment or biases on the experience through the process of "*Bracketing or Epoche*" for the researcher to get the full understanding of the essence of the topic under study. Likewise, it is more appropriate for this group and the chosen topic than experimental, case study, action research, and observation research designs because of the multifaceted nature of these designs. Additionally, a mixed-method research design will not be appropriate because it is too complex for this study, and it requires multiple data collection methods. However, in this study, there will be in-depth interviews to collect primary data from the study participants.

As the researcher and staff of the Bermuda Hospitals Board (BHB) working as a Registered Psychiatric Nurse for 12 years now at Mid Atlantic Wellness Institute (MAWI). The study participants for the research are my professional colleagues although working in different departments. Additionally, we are working on the platform of Registered Psychiatric Nurses despite years of work experience. Since the research framework is Husserl's transcendental phenomenological philosophical study, I will bracket/Epoche my experience on the topic under study to get the essence of the study participants' lived experience on the physical impact of the COVID-19 pandemic on the performance of Registered Nursing Staff of MWI Bermuda.

The study participants were Registered Nurses with 5 years of working experience at Mid Atlantic Wellness Institute, Bermuda. The Purposive sampling technique was used to select twelve participants because of their ability to provide the required information based on their lived experience on the topic under study (Creswell & Clark, 2018).

Semi-structured and follow-up interviews were conducted using an interview guide because of the tool's appropriateness with the qualitative research method for obtaining subjective data on the lived experiences of the study participants.

Furthermore, the study participants were given Consent Form and Information Sheet with demographic information to complete which will include professional affiliation, gender, age, years of work experience, and the unit/department. Then the recruited participants were interviewed using semi-structured interviews and follow-up interviews to validate the data collected.

The data analysis was done using Colaizzi's (1978, Praveena, 2021) descriptive phenomenological methodology, which allows for the description of the phenomenon according to the people who experienced it using seven steps for the descriptive phenomenological method as follows: familiarization, identifying significant statements, and the open interview recordings transcribed into meaning units and themes. Equally, formulating meanings, clustering themes, developing an exhaustive description, producing the fundamental structure, and seeking verification of the fundamental structure.

Validity and reliability are important concepts to assess the quality of the research activities. For this study, a peer review mechanism was implored to allow neutral colleagues to review the demographic questionnaire and the semi-structured interview tools documents as a pilot scheme before the start of the actual data collection. Similarly, the transcripts were reviewed for authentication of the accuracy of the deduced data to enhance the credibility of the procedure. Equally, the services of an external independent assessor to assess the content of the tools and the overall process of data gathering and interpretations for validity and reliability are performed. Therefore, these processes guarantee the validity and reliability of the entire process for the accuracy and consistency of the data. To ensure the credibility of the data collection process I spent time explaining the nature of the study; then I implored member checking to ensure that the information collected and transcribed is a true reflection of their lived experience of the phenomenon understudy. Additionally, under strict COVID-19 social distance protocols Participants were given the interview guide to review before the study commences. Being a member of the professional team, the participants were calm and receptive throughout the process, which further enhanced the credibility of the data collection process. For transferability, the lived experiences narrated by the participants are in-line with similar groups from other jurisdictions during the COVID- 19 pandemic. However, the island cannot be used as a yardstick to measure and generalize the findings with other places with a large population and a high number of cases of COVID- 19 infection. For confirmability, I pay more attention to the participants' lived experiences. Additionally, I used bracketing and journaling to set aside my personal biases to get the essence of the phenomenon understudy.

Ethical approval was obtained from the Institutional Review Board (IRB) of Bermuda Hospitals Board (IRB: BHB/EC/LK/11-05-2022), which has a standing ethics committee that also served for research purposes. Similarly, the study participants' informed consent was obtained with the assurance of protecting their privacy. Additionally, instead of their names, codes were used to replace the names of the study participants. Furthermore, the assurance was given to the study participants that they are free to leave the research activities at any time they so desired without any prosecution.

### 3. Findings

#### 3.1 Background Information of the Participants

This section presents the background information of the 12 key informants who participated and were selected in the study using a non-probability purposive sampling technique based on the following criteria: Registered Nurses, with 3 to 5 years of work experience at Mid Atlantic Wellness Institute, Bermuda who speak and understand the English Language.

All the key participants were Registered Nurses working at Mid Atlantic Wellness Institute, Bermuda as indicated in Table 1, Four out of twelve participants were Registered Nurses and Registered Psychiatric Nurses, four were only Registered Psychiatric Nurses, and the remaining four were Registered Nurses only. The participants' ages ranges between 35 to 52 years with seven males and five females. In terms of years of working experience, most participants have at least five years and at most nine years in Mid Atlantic Wellness Institute, Bermuda. Five of the participants were working in an Acute In-patient ward, four in the Rehabilitation In-patient ward, and three in an In-patient Substance use ward.

**Table 1:** Participants' Demographics

Participant	Registration Status	Age	Sex	Unit/Ward	Years/work Experience
P1	RN/RPN	38	Male	Acute in Pt.	6
P2	RN/RPN	41	Male	Acute in Pt.	7
P3	RN/RPN	40	Female	Acute in Pt.	5
P4	RN/RPN	42	Female	Rehab in Pt.	8
P5	RPN	35	Male	Rehab in Pt.	6
P6	RPN	45	Male	Rehab in Pt.	7
P7	RPN	42	Male	In Pt. Detox	5
P8	RPN	51	Male	In Pt. Detox	6
P9	RN	43	Female	In Pt. Detox	7
P10	RN	52	Female	Acute in Pt.	9
P11	RN	42	Female	Acute in Pt.	8
P12	RN	38	Male	Rehab in Pt.	7

Code: RN (Registered Nurse), RPN (Registered Psychiatric Nurse), Acute in Pt. (Acute In-Patient ward), Rehab in Pt. (Rehabilitation In-Patient ward), In Pt. Detox (In-Patient Substance use ward).

#### 3.2 Organization of Themes

In this study, one major theme and seven sub-themes emerged. The theme was presented with extracts of the participants' verbatim quotations. Pseudonyms were used to maintain the anonymity of the participants.

This section presents the findings research question which describes the physical impact of COVID-19 on the performance of Registered Nursing staff at MAWI in Bermuda during the ongoing COVID-19 pandemic. Data analysis shows that the physical impact of COVID-19 on the performance of Registered Nurses at MAWI Bermuda falls under one theme. The findings of this study revealed COVID-19 had an impact on Registered Nurses at MAWI Bermuda, which affects them physically in terms of response to the pandemic, experience with PPEs, and



frequent hand hygiene. Moreover, COVID-19 affected the performance of Registered Nurses at MAWI Bermuda with associated diagnosis, isolation and vaccination of Registered Nurses at MAWI Bermuda. One theme with seven sub-themes emerged from the first research question as summarized below:

- 1) Physical Impact of COVID-19 Pandemic on the Performance of Registered Nursing staff at MAWI in Bermuda
  - a) Physical Response to COVID-19
  - b) Experience with hand hygiene
  - c) Experience with PPEs
  - d) Effect of COVID-19 on Performance
- 2) Positive Effect
- 3) Negative Effect
  - a) Diagnosis of staff with COVID-19
  - b) Admission and Isolation of staff with COVID-19
  - c) COVID-19 Vaccination

### 3.3 Physical Response to COVID-19 by Registered Nursing Staff at MAWI in Bermuda

The physical response to COVID-19 by Registered Nursing staff at MAWI in Bermuda was the first sub-theme that emerged from the data on the physical impact of COVID-19 among Registered Nursing staff at MAWI in Bermuda during the current pandemic. This refers to the way Registered Nurses at MAWI Bermuda reacted to the outbreak of COVID-19 in their workplace. The participants experience mixed reactions that range from difficulty to work, fear; anxiety, fatigue, and discomfort to getting used to the COVID-19 protocols and being ready to work.

The participants described that COVID-19 made their work as Registered Nursing staff at MAWI in Bermuda difficult especially when it requires the use of PPEs making simple procedures more complex. Some participants described their physical response to work as more strenuous as explained by Participant 8:

*“The overall work became more strenuous as simple procedures became more complex because individuals had to wear PPE when doing any activities including physical contact”.*

Participant 11 stated that COVID-19 made it difficult to perform activities of daily living and other nursing activities that require extra oxygen especially breathing with the facemask which causes dizziness, headache, and frequent asthmatic attack due to reduced hypo-perfusion of tissues as stated by Participant 11:

*“COVID-19 has made it difficult to do daily work tasks that require extra oxygen or cardiovascular activities because I suffer from severe Asthma, so to be breathing with a mask on all the time makes me extremely dizzy and lightheaded doing certain activities”.*

Other participants described the use of PPEs as uncomfortable and forceful. Participant 9 developed a sore throat as a reaction to the use of N95. He added; “I felt congested by constantly wearing a face mask, developed a

sore throat when a specific N95 mask provided by the employers was used” (Participant 9). Some had hypersensitivity to the use of PPEs that led to the development of rashes as stated by Participant 10; “I experienced rash behind my ears and hypersensitivity to ears where the elastic band of the face mask is attached”.

Moreover, some participants described the response to COVID-19 as tiring and physically worn out especially when dealing with protocols and trying for patients to adhere to them. Participant 6 shared:

*During the start of the pandemic, it was tiring dealing with various protocols and changes along with trying to patients adhere to these new methods.*

This stage can best be described as the denial stage and the participant later moves to the acceptance stage, which they described as ready to work and getting used to the protocols. Participant 1 stated that he was ready to work and getting used to the COVID-19 protocols:

*“Physically I was ready as I work in a fast-paced environment ... and getting used to the constraints of the implemented protocols” (Participant 1).*

Participant 5 later adapted the COVID-19 protocol as presented.

*My overall physical response was good. I responded accordingly to the situations presented in their various forms, which was manageable. My overall health and wearing of PPE among other physical responses were adaptable for the most (Participant 5).*

### 3.4 Experience of Registered Nursing Staff with Hand Hygiene During COVID-19 Pandemic

Registered Nursing Staff at MAWI Hospital in Bermuda expressed mixed reactions to the experience of frequent hand hygiene and decontamination that involves hand washing and the use of hand sanitizer during the COVID-19 pandemic. The experience ranges from worrisome, dryness of the hand, questioning the efficacy of the procedure to acceptance of the procedure as a routine activity.

Initially, participants were worried about frequent hand washing and the use of hand sanitizers for hand washing and decontamination against the spread of COVID-19. But the participants later become used to the hand hygiene procedure as stated by Participant 2:

*“Initially excessive hand washing and decontamination were burdensome. However, it became habitual except for drying out of my hands it did not affect me physically” (Participant 2).*

While Participant 5 expressed his worries about frequent hand sanitizer but not with frequent hand washing as expressed:

*“Hand washing was not an issue as I was accustomed to frequent hand washing before COVID-19; however, the*

*frequent hand sanitizer usage was a bit of a challenge. I did not suffer any physical issues from using the same” (Participant 5).*

However, frequent hand washing, and use of alcohol-based hand sanitizers exposed the Registered Nurses of MAWI Bermuda to suffer from dryness of hand as described by Participant 7; “... hand washing and use of hand sanitizers frequently caused extra dryness in my hands”. Due to dryness of the hand, the nurses at MAWI Hospital employed the use of hand moisturizer or personal hand sanitizer with moisturizer for the prevention of hand dryness as echoed by Participant 9:

*“The frequent use of soap and alcohol from the hand sanitizers contributed to the dryness of the skin. I worked this out by purchasing personal hand sanitizers with moisturizers and applying moisturizers at regular intervals during the day (Participant 9).*

Moreover, some participants questioned the effectiveness of the hand hygiene procedure in the prevention of COVID-19 and the efficacy of many different products of hand sanitizers in circulation as stated by Participant 10; “however, I questioned the efficacy of the procedure and products as many different ones where introduced”.

In a related development, many participants accepted frequent hand washing and the use of hand sanitizers as good practices and welcome development among nurses in MAWI Bermuda. Participants 6 and 8 narrated as follows:

*Frequent handwashing and use of hand sanitizers had no effects although it brings a normal practice as an RN (Participant 6)*

*I practiced frequent handwashing before Covid-19, so the mandate did not bother me (Participant 8)*

### **3.5 Experience of Registered Nursing Staff with PPEs During COVID-19 Pandemic**

This refers to the experience of the Registered Nursing Staff of MAWI in Bermuda with the use of personal protective equipment (PPE) during the Covid-19 pandemic. PPE affected the Nursing staff such as feeling suffocation, uncomfortable, frustrated, having headaches, and using PPEs longer than expected. The Nursing staff at MAWI shared their experience of feeling suffocation with PPEs in terms of shortness of breath, difficulty in breathing, and fatigue. Participant 1 shared his experience with shortness of breath especially in the ward while attending to patients as narrated:

*Kept feeling as if I was experiencing shortness of breath especially when times are busy, and we are running around the unit attending to patients during crises and emergencies (Participant 1).*

Participant 11 explained how the face mask and face shield became barriers to normal respiration as described; “PPE equipment has been a struggle for me to adjust to because it makes it even harder to get oxygen through my mask, and

face shield. Those added barriers make it harder for me to breathe”.

Despite the experience of difficulty in breathing, the Registered Nursing Staff at MAWI were able to adapt to the situation due to frequent use of the facemask and other PPEs and feel a sign of relief as expressed by Participants 4 and 5. Participant 5 shared his adaptation experience:

*In terms of masks, it was a little difficult to breathe, causing distraction from the job and feeling tired quicker. After frequent usage of the masks, it became easier to breathe while wearing them. So eventual adaptation occurred which caused smoother work transactions (Participant 5).*

Moreover, Registered Nurses at MAWI Bermuda were feeling uncomfortable especially during the summer feeling hot, irritable, sweating profusely, and apprehension as a result of using PPEs for extended periods and the thick-layered material used in making face masks and other PPEs. Many participants expressed their feeling of discomfort with the PPEs as described by Participant 2:

*Physically uncomfortable especially during the summer months, felt hot and sweaty in my gown due to the material feeling suffocating when using certain thick-layered masks most times felt restricted in movement and in physical contact with clients and colleagues.*

Participant 5 shared a similar experience:

*Wearing of PPE, such as gowns was uncomfortable once they were worn for an extended period. Uncomfortable as in I remember feeling hot and slightly irritable once they were worn for too long. This posed a distraction from the task/s being performed. The goggles I found would fog and make seeing difficult, which could have resulted in a work hazard. In terms of masks, it was a little difficult to breathe, causing distraction from the job and feeling tired quicker.*

Prolonged use of PPEs leads to frequent headaches, earache; face puffiness, fogging up, and clouding of eyeglasses. Participant 6 shared his experience with PPEs; “Prolong wearing of facemask caused frequent headaches, and frustration of clouding eye goggles”. While Participant 4 suffered from earache and puffiness of the face with a feeling of apprehension and paranoia as expressed: “... ear hurts, face feels puff with having to breathe in what you breathe out. Always have a feeling of apprehension and paranoia”.

### **3.6 Effect of COVID-19 on the Performance of the Registered Nursing Staff of MAWI during the COVID-19 Pandemic**

The COVID-19 pandemic affected the performance of the Registered Nursing Staff of MAWI hospital negatively and positively.

The positive effect of the Covid-19 pandemic includes increased patient-nurse interaction, enhancement of knowledge and skills, exercise, and agricultural activities. The participants stated that Covid-19 brought about creative ways of examining a patient that involves virtual history

taking and physical examination. Participant 5 shared his experience:

*Also helped bring out creative physical ways in patient-nurse interactions while assessing clients brought against their will (Participant 5).*

Moreover, COVID-19 resulted in the enhancement of knowledge and skills of MAWI Registered Nursing Staff in terms of knowledge of infection control protocol, internet skills, WebEx and Tele-psychiatry. Participant 12 had knowledge and skills on infection control protocol and hand hygiene as stated; "It enhances my infection control knowledge and hygiene skills". While the COVID-19 pandemic enhances the compliance to infection control protocol of MAWI Registered Nursing Staff as expressed by Participant 3; "positively it enhances my compliance with infection control protocols in the performance of my duty". Many nurses learn the use of telepsychiatry and other creative ways of interacting with the patient as stated by Participant 4:

*My performance at work was enhanced ... but WebEx was an alternative and Tele-psychiatry was utilized for communication. Also helped bring out creative physical ways of enhancing patient-nurse interactions while assessing clients brought against their will (Participant 4).*

Moreover, the COVID- 19 pandemic made Registered Nursing Staff at MAWI Hospital engage in agricultural activities and exercise to stay healthy and increase their lung capacity. Participant 1 shared his who engaged in agricultural activities shared his personal experience; "COVID-19 forced me to adopt other activities like planting vegetables and exercising more to stay healthy and strong". While Participant 11 shared his experience with exercise to stay fit and healthy as expressed:

*"... It (the COVID- 19 pandemic) helped me to find new solutions to help increase my lung capacity, which enables me to perform better at work or in regular day-to-day activities (Participant 11).*

Meanwhile, the performance of the Registered Nursing staff of MAWI was negatively affected by the COVID- 19 pandemic. The negative effect includes increased workload, ad-hoc approach in dealing with psychiatric patients, movement restrictions, and fear of and contact with COVID-19. Participants explained how COVID- 19 made simple procedures more complex and increased their workload due to the frequent use and changing of PPEs. Participant 2 expressed:

*"Physically, the time for the procedures extended, and the workload increased due to the now required changing into and out of PPE created tiredness and feelings of exhaustion due to the multiple episodes of PPE changing and uncomfortable wearing during the work period" (Participant 2).*

The increased workload precipitated the participants to employ self-discipline in dealing with psychiatric patients and employ an ad hoc approach in their management due to

the absence of treatment protocol to care for psychiatric patients during the COVID- 19 pandemic. Participant 10 shared:

*"It required disciplined because of dealing with the mentally ill patients as there was no protocol resulting in an Ad hoc approach to the situation" (Participant 10)*

Moreover, Registered Nursing Staff who contracted COVID-19 affected their performance because it hindered them from going to work as stated by Participant 5; "Negative effect of Covid on my performance as a nurse was, I contracted Covid; it hindered me from coming to work".

However, movement restrictions and with lockdown affected the performance of the Registered Nursing staff of MAWI as stated by Participant 1; "Being a quiet worker it prevented me from seeing my family for over a year, so I was constantly worried if they were being safe". The movement restrictions in the ward also affected the study participants as described by Participant 7; "... restrictions on free movement around the ward with PPEs affected me negatively".

Diagnosis, Isolation, and Vaccination of COVID-19 among Registered Nursing Staff of MAWI Bermuda

This subtheme refers to the diagnosis of COVID- 19 among Registered Nursing staff of MAWI Bermuda and the admission/isolation of staff for treatment with subsequent vaccination against the disease to prevent future occurrence. Five out of the twelve participants tested positive for COVID- 19 infection during the pandemic period. Despite regular hand hygiene and the use of PPEs Nursing Staff of MAWI Bermuda contracted COVID- 19 infection as expressed by participants 2 and 5. Participant 2 shared his information on his diagnosis of COVID- 19:

*Interviewer: Were you ever diagnosed with COVID-19?*

*Participant 2: Yes, I was diagnosed with COVID-19*

Similarly, Participant 5 responded in an affirmative of diagnosis of COVID-19 when interviewed as stated; "Yes, I was diagnosed with COVID-19 infection".

On the other hand, none of the five Registered Nursing Staff who tested positive for COVID-19 were hospitalized but isolated in their homes for about 2 weeks as per the protocol. They manifested mild COVID-19 symptoms as reported by Participant 2; "I was not hospitalized, the case was mild, and I was required to isolate". Participant 5 stated that the treatment of COVID-19 does not involve admission but rather isolation at home for 10 days. The participant shared:

*Interviewer: Does that involve admission or isolation?*

*Participant 5: No, it did not involve admission, but I was required to isolate myself for 10 days at home.*

Meanwhile, all the Registered Nursing Staff of MAWI received the full dosage of COVID-19 vaccination which comprises two doses and some received booster doses in addition. Participant 7 echoed that he was fully vaccinated.



Interviewer: Have you taken the COVID-19 vaccination?

Participant 7: Yes, I took the COVID-19 vaccine (2 doses)

Similarly, Participant 2 reported receiving a booster dose in addition to the 2 doses of COVID-19 vaccination; "I am fully vaccinated in addition to the Booster dose".

Participant 9 stated the reason for taking the COVID-19 vaccination that; it was compulsory, attached to Work Permit renewal and requirement for traveling out of the Bermuda Territory as explained:

"I reluctantly took the two doses of vaccination because being vaccinated was attached to work permit renewal and the requirement for travel" (Participant 9).

#### 4. Discussion of Findings on First Research Questions

This is similar to the findings of Guynup (2021) who reported that coronavirus could result in decreased sexual drive-in men because of the damage to the endothelial cells lining the blood vessels that supply the penis leading to poor oxygenation and poor erection. Similarly, the study indicated that testicles served as a good reservoir for viruses including coronavirus, which explained the reason why men complained of pain in the testicles (Guynup, 2021).

Moreover, the long-extended work hours spent by nurses in high-risk areas, coupled with the adornment of personal protective equipment (PPE) during that time make them susceptible to physical challenges. In a cross-sectional study involving 41 healthcare workers, Shaukat, et al (2020) pointed out that, 97% reported skin damage with the nasal bridge most affected (83.1%). Other symptom includes dryness and desquamation (70.3%) associated with prolonged PPE usage and frequent hand washing in between patients. Similarly, PPE shortage and the supply of low-quality PPE were some of the challenges faced by healthcare workers during the COVID- 19 pandemic (Razu, 2021). Additionally, utilizing the Maslack Burnout Inventory-Medical Personnel (MBI) Shreffler, et al (2020) reported on the problem of burnout syndrome resulting from physical exhaustion amongst 220 healthcare workers at the Oncology unit during COVID- 19. The results indicated lower levels of burnout in the study subjects compared with those working in other units, which they attributed to perceived control over the situation. In another study, Park & Quising (2020) pointed out that, COVID- 19 protocols on social distancing and quarantines have resulted in physical inactivity and poor eating habits leading to various medical and metabolic syndromes.

#### 5. Conclusion

In conclusion, the COVID- 19 pandemic has affected the performance of the Registered Nursing Staff of MAWI in Bermuda both positively and negatively. Therefore, there is a need for the MAWI Bermuda to provide psychological support and flexible work schedule to COVID- 19 exposed and non-exposed Registered Nurses to conserve energy and boost immunity. Additionally, there is a need for further

study on the well-being and quality of life of Registered Nurses of MAWI Bermuda post COVID- 19 pandemic era.

#### Authors Contributions:

The study conception, design, data collection and drafting of the manuscript were done by LAK. Both authors: LAK and AMS did data analysis, interpretation, and critical review of the manuscript.

#### Conflict of Interest:

None to disclose

#### Funding Information:

None to disclose

#### Patient or Public Contribution:

Selected Registered Nursing staff of Mid-Atlantic Wellness Institute, Bermuda, participated and contributed their time and expertise to the study.

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