Frontline Women Healthcare Workers: The COVID-19 Global Pandemic

Mariam Seedat-Khan
ORCID iD: https://orcid.org/0000-0001-9056-2282

Oluwatobi Joseph Alabi
ORCID iD: https://orcid.org/0000-0003-1220-760X

Aradhana Ramnund-Mansingh
ORCID iD: https://orcid.org/0000-0003-1995-6849

Khalida Akbar
ORCID iD: http://orcid.org/0000-0002-3530-6697

Abstract

The onset of the global COVID-19 pandemic in 2020 has changed social, economic and health dynamics. The impact on gender, race, class and geography is significant, with women, frontline healthcare workers (HCW) facing an intense burden in managing the COVID-19 virus. Through a systematic review of literature on HCW experiences, we bring to the fore the multiple and intersectional burdens that HCW face. The domestic role of HCW is significant for both nuclear and extended family. The increased risk of exposure is a concern, affirming that women face a greater risk of exposure. The increased vulnerability relates to the ill fit of personal protective equipment (PPE), physical exhaustion, mental stress, extended shifts, fear of transmission and regulation of patient access to medical care imposes complex challenges. Global north HCWs reflected noticeable confidence in patient care associated with adequate resources and medical-grade PPE. Global south HCWs faced higher exposure levels with inadequate care resources and medical-grade PPE. This study outlines critical responsibilities that highlight social and psychological support with

Print ISSN 1023-1757; Electronic ISSN: 2519-5476; DOI https://doi.org/10.29086/2519-5476/2022/v29n2a8

consideration for the safety and wellbeing of women HCWs. A secondary desktop research approach was adopted to present a gendered analysis of COVID-19 patient care experiences. The ethical requirement of research is preserved. The clinical model amalgamates the gendered perspective that the healthcare sector reinforces in the interest of gender equity in patient care delivery. The data span from January 2020–March 2021. We reveal the significance of prioritising women's experiences, burdened with an increasing workload.

Keywords: women, COVID-19, healthcare-workers, pandemic, patient care, transmission

1. Introduction

Since the World Health Organization (WHO) affirmed the outbreak of the coronavirus COVID-19 pandemic on the 30th of January 2020, a public health emergency of international distress; the world's populace was forced to find new ways to exist and survive through unparalleled circumstances. The exact foundation of current healthcare management systems, economic structures, social existence and political governance, have been tested beyond capacity. Throughout the COVID-19 global pandemic, frontline HCWs' wellbeing has developed into a significant concern for governments, policy experts, international global bodies such as the World Health Organisation (WHO), United Nations-UN and researchers (Ni *et al.* 2020). Frontline HCW's are an essential group of HCW's that shoulder the burden of patient care (Walker 2013). Joseph and Joseph (2016) describe a HCW directly as doctors and nurses or indirectly as helpers, aides, laboratory technicians or even medical waste handlers.

The United States Centre for Disease Control and Prevention (CDC) (2020) describes healthcare workers as personnel within the healthcare sector, paid or unpaid. with a potential chance of exposure to patients or infectious material. Frontline HCWs had to adapt quickly to a novel, highly transmittable and lethal disease (Flynn *et al.* 2021; Regenold & Vindrola-Padros 2021). HCWs can be understood as those individuals involved in the COVID-19 pandemic that are exposed to high levels of stressful or traumatic events and express substantial negative mental health outcomes (Rossi *et al.*

2020). Hence in the context of this study, HCWs are the frontline personnel in the management and treatment of COVID-19 patients and bear the significant risk of exposure to the deadly virus. Female HCWs refer to all the women within the healthcare sector involved in providing care for COVID-19 patients.

The associated risk of infection, transmission and mutation of the COVID-19 virus has compelled human navigation into unexplored terrain at multiple levels. Chan *et al.* (2020) deliberate in ways in which hospital transmission of COVID-19 has become one of the most significant paths of multiplying COVID-19 worldwide, motioning the need to offer added attentiveness to frontline HCW's safety and wellbeing. These HCW's mental wellbeing and emotional resilience have become a critical aspect of maintaining and sustaining safe healthcare delivery through a life-altering global pandemic (Santarone, McKenney & Elkbuli 2020; Almaghrabi *et al.* 2020). Safety measures have intensified across global geographical regions and vary significantly in the north and south. The impact of inadequate medical personal protective equipment (PPE) for women is evident in the south (Park, Kim & Roth 2020; Garber *et al.* 2020). This has led to the inclusion of close and frequent scrutinising and evaluating procedures to alleviate the risk of frontline HCW's exposure and accommodate their mental health, emotional and psychological wellbeing.

This has been an initiating requirement for psychological support and treatment for distress, fatigue, and occupational burnout among HCWs. They lack preparedness for mental, social, physical and professional burdens imposed on HCWs and mandates a clinical model. The proposed management and clinical response to challenges impacting women HCWs across different geographical regions are presented. Whilst there is a scarcity of empirical literature examining the occurrences of frontline women HCWs combating COVID-19, media testimonials continue to convey messages, images and reports of differed lived experiences. This highlights the paralysing fear of exposure to COVID-19 that HCWs typically encounter, which is detrimental to treatment and patient care.

2. Frontline Women in Healthcare

Women HCWs are currently navigating multiple responsibilities amid the COVID-19 pandemic. The experiences of these women are complicated and

require researchers' scrutiny (Crimi & Carlucci 2021). COVID-19 has significantly changed configurations of work-life and altered procedures and processes for HCWs patient care duties (Boneva *et al.* 2020). There is currently an extraordinary demand for scarce resources required for patient care.

The access to suitably fitted PPE mandated for healthcare workers required throughout their shifts reduces their risk of exposure to the fatal COVID-19 virus. The absence of PPE increases levels of fear and the risk of exposure to the virus (Crimi & Carlucci 2021). For women HCWs in particular, this places their families at heightened risk. Women HCWs are burdened with increased levels of anxiety stemming from unsuitable, medical-grade PPE. The absence of protective facial PPE results in greater stress and anxiety around involuntary exposure of gloves that could have touched their faces or other entry points for the virus transmission (Ni *et al.* 2020). There are a series of other professional and patient care limitations that women HCWs experience concerning the size and access to PPE every day of their lives in the line of duty (Ni *et al.* 2020). Crimi and Carlucci (2021) note that women HCWs feel discouraged by the highly challenging responsibilities of managing COVID-19 patients and their loved ones. The demands and emotional commitment of engaging with patients and their relatives, overseeing patients experiencing unprecedented intense pain and struggling for their life are traumatic. Women HCWs are faced with making the difficult decisions of prioritising care from a pool of patients. Scholarship in health communication displays that women HCW are more empathetic in communicating to patients than male HCWs are (Jefferson *et al.* 2013; Roter, Hall & Aoki 2002). This intersecting behavioural pattern helps researchers (Matsuo *et al.* 2020) recognise why women, in particular, reported a higher-level prevalence of burnout than frontline HCWs in Japan. Conveying women HCWs responsibilities' intersection experiences is critical in evaluating their familial domestic roles and responsibilities as primary caregivers, mothers, wives and daughters (Sharma, Chakrabarti & Grover 2016).

COVID-19 and the associated lockdown restrictions have constructed varying complex effects on HCW's (Pappa *et al.* 2020). Women are impacted disproportionately, expressly women with children under 12, associated domestic burdens and caregiving roles (Rossi *et al.* 2020). The struggle to cope with separation from their families for protracted periods culminates in increasing mental health challenges (Rahman & Plummer 2020). Adam-Prassl *et al.* (2020) highlight challenges experienced by

women HCWs, reporting that they have had to find innovative systems of confronting work overload exacerbated by the invisible intersections of shift work that places added mental stress on planning, scheduling, coordinating, prioritising and problem-solving to achieve a level of balance between home and work. The mental and emotional gravity that women have imposed on them daily is the fundamental cause of anxiety, depression, exhaustion, burnout and suicide (Pappa *et al.* 2020; Rossi *et al.* 2020; Rahman & Plummer 2020). An illustration of the challenges experienced by women HCWs in South Africa is a case wherein Human Immunodeficiency Virus (HIV) and tuberculosis (TB) have imposed unprecedented burdens on the healthcare system (Singhal *et al.* 2020; OXFAM 2020; Iyoha & Osarogiagbon 2015). The exceptional onset of COVID-19 has had an overwhelming impact on HCWs delivering patient care (OXFAM 2020).

According to a report by OXFAM (2020), the combinations of the Human Immunodeficiency Virus (HIV), Tuberculosis (TB) and COVID-19 have intensified the weight and demand on the nation's health management system's proliferating challenges for HCWs. Despite strict COVID-19 regulatory compliance and adherence to WHO protocol, South Africa currently has the highest COVID-19 infections in Africa. OXFAM (2020) contends that most of the frontline HCW fighting the pandemic are black women. The South African Nursing Council report (2018) noted that women comprise approximately 90% of the workforce across the nursing profession. OXFAM (2020) chronicled that frontline women HCWs face painful, incredible daily struggles in the line of duty, including working in un-sanitised hospitals and clinic wards, faced staff and resource shortages; excessive working hours with low wages (Elkholy *et al.* 2020). Elkholy et al. (2020) reported that while symptoms of insomnia, anxiety, depression, and stress were common among women HCWs, they were identified to be at a higher risk of experiencing severe depression, with physical manifestations from stress and anxiety. Elkholy *et al.* (2020) consequently recommended the provision of appropriate mental health support for HCWs as an integral measure of public health processes in combating COVID-19 and safeguarding medical services and HWS's health and safety. The impact of COVID-19 has been significantly diverse across gender, race and class varying for men and women in the north and south, associated with mortality and infection. Crimi and Carlucci (2021) contend that sex-disaggregated data and gender analysis display that COVID-19 has a varying impact across similar age and

sex groups, with higher mortality in men than women. Beyond this epidemiological data is the significant gender, race and class gap that the pandemic has exposed. Women offset an estimate of 70% of the global healthcare workforce, confirmed by a WHO (2019) study conducted in 104 countries. A substantial portion of frontline HCWs undertaking COVID-19 patient care has been identified as women (Boniol *et al.* 2019) While the survey is not all-inclusive, it represents only 30% of women in medicine, healthcare and science (Gabster *et al.* 2020). It is significant as it conveys the current gender configuration and dynamics in the management and treatment of COVID-19, specifically from the perception of frontline HCW's.

2.1 Women Healthcare Workers' Exposure to COVID-19

Spain, Italy, and the United States of America (USA) have reported that a higher number of women HCW's have been infected with COVID-19 in the line of duty. Spain (75,5%), Italy (69%) and the USA (73%) have recorded the preceding work transmission cases among women HCWs (Crimi & Carlucci 2021; Marchand-Senécal *et al.* 2020). Perez (2019) reasons that one of the highest infection rates among women HCWs is attributed to female anatomy and biology (Cai *et al.* 2020). Perez (2019) hypothesises that PPE is designed and suitable for the male physique and anatomy and identified that the smallest PPE sizes are often poorly sized for women. Women frontline HCWs exceed the number of men dedicated to patient care in the health sector. The proficiencies and dexterities required to confront COVID-19 challenges and associated patient care have been established from on-the-job training. It becomes imperative to understand how women HCWs become resilient when forced to cope with novel practices in these unprecedented times of a global pandemic. It becomes mandatory to explore how women HCWs cope in their modified roles as healthcare professionals *vis-a-vis* intersecting identities that they embody as wives, mothers, sisters, aunts and familial caregivers. The intersectionality of their identity as women is undoubtedly extremely challenging. These women frontline HCWs, similar to other women within their immediate domain, have dedicated and remained unswerving as HCWs in the fight against COVID-19 (Wenham Smith & Morgan 2020).

Exposure to COVID-19 is higher when patients present with mild symptoms (Singhal *et al.* 2020). In these cases, HCWs may not have a high

level of clinical suspicion and fail to adopt the adequate protective measure, that is, if a fitting one is available, as in the case of frontline women HCW's across Africa and other developing nations. HCWs are particularly vulnerable with fears of infecting their loved ones, inadequate personal protective equipment (PPE), long working hours, and lack of adequate healthcare when infected (Murthy, Gupta & Kumar 2020). Joob and Wiwanitkit (2020) refer to a patient admitted for dengue fever, but later tested positive for COVID-19; the inaccurate diagnosis on admission placed women HCWs at risk. The HCW attending to this patient developed symptoms and subsequently tested positive for COVID-19 infecting her family in the process. In another instance in Wuhan, China, an unprecedented breakout of COVID-19 among HCW was successfully traced back to a patient admitted with abdominal pain to the surgical department (Wang *et al.* 2020). These are a few of many cases in which, HCWs have been exposed to patients whose admitting diagnoses was incorrect increasing exposure and transmission of the virus. Consequently, HCWs in the front line should take personal precautions very seriously, irrespective of their patients' diagnosis at the point of admission; however, the limited PPE and resources do not allow this form of protection.

COVID-19 is a novel virus. The knowledge of its transmission; symptoms and post-recovery impact on the body is inconclusive. Moreover, contact tracing and controlling the virus transmission necessitates resources and expertise not readily available in the global south (Wang *et al.* 2020). Positioning precautionary measures within healthcare facilities and taking personal responsibility remains one of the most effective ways to mitigate the risk of exposure (Ghinai *et al.* 2020; Marchand-Senécal *et al.* 2020; Ni *et al.* 2020; Cai *et al.* 2020). This requirement for adequate PPE, including gloves, gowns, facemasks and face shields suitable for women, is mandatory.

Similarly, scientific conclusions from the north have reported infrequent infection transmissions in HCWs involved directly in COVID-19 patients' care. This is attributed to access to adequate PPE and the heightened cautiousness of HCWs in COVID-19 wards (Singhal *et al.* 2020). HCWs' infections associated with COVID-19 are linked to morbidity, mental stress, disruption of patient care, risk of transmission to patients and family members and mortality (Singhal *et al.* 2020). The global north has reported inadequate access to PPE; however, reports display that the shortage of PPE is excessively higher in the global south and low-income countries (Allan *et al.* 2020). Therefore, available PPE ought to be equitably distributed across

the globe. The amassing of merchandise, misappropriation, price gouging and export blocks need to be addressed (Mahase 2020a; Mahase 2020b. Owing to the responsibility of protecting HCWs and non-COVID-19 patients, frequent requirements for clinical health services settings must be formalised to ensure that the risk of exposure to infection is reduced for pregnant women, children, terminally ill and elders (Sharma *et al.* 2020).

2.2 Psychological and Emotional Strain

The social media appreciation that HCW's are receiving during the pandemic has resulted in the diffusion of their evidence which is likely to aggravate their internal psychological barriers in obtaining specialised support (Parveen *et al.* 2020). Mental health disorders are pervasive among HCWs amid the pandemic; the exposure to fatalities has increased. Afflicted patients, the course of conditions and impact is poorly understood. Gender, race, class, geography and occupational differences are described within a sample, with women HCWs reporting increased symptoms linked to male HWCs (Allan *et al.* 2020). There was considerable heterogeneity between studies, likely related to methodological differences (Allan *et al.* 2020). Additional extended follow up of HCWs is required (Allan *et al.* 2020). Self-treatment, denial, rationalisation or minimisation may be initial defence mechanisms used to challenge stressful circumstances. Notwithstanding, they may fail to access practical help when developing mental health challenges emerge (Parveen *et al.* 2020). Hence stratagem to overcome stress and unfortunate mental health conditions are required from team leaders and mental health specialists at hospitals and clinics.

Moreover, individual capacities of managing mental health and psychosocial wellbeing during this challenging time are crucial for maintaining physical health (Maqsood *et al.* 2020). An assessment of a subgroup of clusters exhibited that women as a gender delivering patient care as HCWs were discovered to be susceptible to an increased risk of depression. The frequency of depression is noted to be more among women. This displays the correspondence with evidence that women in the sector under pandemic circumstances are prone to burnout, which is closely associated with depression (Junaid, Ali & Nazim 2020). Consequently, during the pandemic, unpleasant emotions, including fear, hyperarousal, intrusive memories and insomnia, and several related to sadness or emotional

exhaustion were predominantly experienced by women. Hence, it is crucial to observe mood changes, sleep patterns, and additional mental health deterioration symptoms in forecasting aggravating factors and recommending clinical interventions (Junaid *et al.* 2020).

In emergency cases, long term conditions such as burnout, depression, and post-traumatic stress disorder, can be circumvented by managing stress and providing expert support for women HCWs (Yalçın *et al.* 2020). The COVID-19 pandemic has witnessed the infection of HCWs, needing isolation and, in some cases, hospitalisation (Parveen *et al.* 2020), which further impact mental and physical health. The rapid systematic review and meta-analysis of COVID-19 have largely addressed clinically significant post-traumatic stress and typical psychiatric cases among HCW in the acute phase, during and immediately after a pandemic (Allan *et al.* 2020). The study by Allan *et al.* (2020) consisted of 184 (62,2%) men and 112 (37,8%) women that expedited the finding that (90,9%) of the participants presented with symptoms associated with anxiety, and approximately 10% presented with moderate to severe anxiety symptoms. The moderate to extreme anxiety levels were higher in women than male HCWs (Murthy *et al.* 2020). A study conducted with 662 participants (50% of HCWs) in India exposed significant feelings of anxiety, apprehension, and worries due to the COVID 19 pandemic (Murthy *et al.* 2020; Parveen *et al.* 2020). HCWs employed during the first few months of the COVID-19 pandemic experienced symptoms of anxiety and depression, and 38,9% experienced insomnia (Allan *et al.* 2020). Considering the occurrence of anxiety indications among HCWs, interventions are necessary to preserve their mental health (Maestro *et al.* 2020). Mental health difficulties affect the attention, understanding and decision-making power of HCWs and their physical wellbeing (Maqsood *et al.* 2020). These mental health challenges originate from HCWs' lived experiences, which can be traced to excessive workloads, extended work hours, inadequate supply of PPE, media overload, insufficient government support and increasing morbidity and mortality of HCWs (Maqsood *et al.* 2020).

2.3 Violence Against Health Care Workers

There has been a dearth of research publications since the onset of the COVID 19 pandemic, but researchers have failed to capitalise on the individual voices of the women HCWs affected by the onset of the pandemic

(Ivbijaro *et al.* 2020). The pandemic has caused a prodigious escalation in cases of violence against all women. Scholars have cautioned researchers to consider unreported cases of domestic violence (Clark 2020). China, France, Cyprus, Singapore, the USA, and South Africa have reported an increase in domestic violence cases since COVID-19 lockdowns.

Jingzhou City in Hubei, China reported a threefold increase in domestic violence cases since February 2020, compared with the same period in 2019 (Tong *et al.* .2020). France, however, noted that domestic violence cases had increased by 30% since the lockdown on 17 March 2020 (Sharma *et al.* 2020). Helplines in Cyprus and Singapore have registered an increase in the number of calls by 30% and 33%, respectively (Sharma *et al.* 2020). The USA reported an increase in domestic violence cases at the peak of the COVID-19 lockdown. While the statistics vary from state to state, the data indicate an exponential increase in domestic violence cases (Sharma & Borah 2020:2). Social isolation has been identified as the source of the increased domestic violence cases, ranging between 10% in New York and a 27% increase in Alabama (Sharma & Borah 2020:2). South African domestic violence cases have multiplied significantly with a reported 54% increase (Clark 2020).

COVID-19, moreover, has instigated vast consequences on the overall health of women. With escalations in domestic violence, sexual harassment, and limited access to healthcare globally, health authorities struggle to counteract women's severe health consequences (Sharma *et al.* 2020). Identifying risk factors leading to increased workplace violence against HCW's in hospital settings is essential and appropriate measures in the form of adequate staffing, security, and soft skills training needs to be instituted (Garg *et al.* 2020). Garg *et al.* (2020) established that female nursing staff are nearly twice as likely than male HCWs to be injured and almost three times as likely to receive containment-related injuries associated with domestic violence lockdowns (Garg *et al.* 2020).

The prevalence of violence against women HCW's presents a rising trend of women's vulnerability in the health sector. Garg *et al.* (2020) refer to violence against women HCWs that ranges from 27,4% to 67% (Garg *et al.* 2020). There is an urgent and inescapable requirement that healthcare administrators address the underlying precipitating factors of violence against women and deliver protection and services in a confidential protected environment (Sharma *et al.* 2020).

The lack of adequate security guards, secure amenities, and poor soft skills among HCW's are common features associated with the lack of safety and protection (Maestro *et al.* 2020). Violence against doctors, nurses and HCWs is a substantial issue for healthcare administrators and necessitates additional consideration from policymakers and legislators. Approximately (63,2%) of female HCWs are likely to experience workplace violence (Yalçın *et al.* 2020). Garg *et al.* (2020) confirm that males experience significantly lower exposure to physical violence than women do. State and private hospitals ought to recognise HCWs' gender-based violence experiences and make adequate efforts to ensure protection and wellbeing services (Yalçın *et al.* 2020).

2.4 Lack of Awareness and Education Surrounding COVID-19

Approximately (75%) of HCWs possess sufficient knowledge on COVID-19 symptom presentation, progression and necessary precautionary procedures (Maqsood *et al.* 2020). Maestro *et al.* (2020) identified that there are differences in the sources of information and gaps in perceptions of the native origin of the COVID-19 virus, its transmission, symptoms and associated risks. Maestro *et al.* (2020) identified that education and awareness during the COVID-19 pandemic among 180 respondents, 133 (73,9%) women and 47 (26,1%) men. Maestro *et al.* (2020) further established from the sample that a significant number of HCWs do not have adequate knowledge of COVID-19. It is doctors and emergency room HCWs who have a greater awareness of symptoms and levels of infection. They appear to be adequately informed and possessed extensive education and awareness, compared to HCWs operating in surgical and clinical hospital wards (Yalçın *et al.* 2020). The pandemic has stigmatised HCWs, resulting in an exodus of workers from the sector, showing that COVID-19 has a remarkable influence on HCWs' wellbeing and professional choices (Wenham, Smith & Morgan 2020).

2.5 Government Intervention and Policy Reform

The government, healthcare administrators and policymakers have failed to recognise the multiple and intersectional roles of women HCWs in the face of the COVID-19 pandemic (Yalçın *et al.* 2020). According to Murthy, Leligdowicz and Adhikari (2015), this has overextended the capacity of

women HCW's beyond the standard. The absence of support from organisations vis-à-vis familial obligations generates a vacuum that women frequently struggle to balance with their professional functions. The lack of childcare support systems for women HCW during national shutdowns is unconstitutional. This imposes intersecting responsibilities weighing heavily on single mothers and migrant HCWs. The closure of schools forces learners into familial households, with little consideration for the care of HCWs. It is imperative to recognise that the consequence of these intersections are not just reflected in the personal, social and mental health of the women HCWs, but has a significant impact on their role as primary caregivers. The physical and psychological well-being of HCWs impact the execution of their professsional responsibilities. It is fundamental to highlight the dynamics that are frequently indistinct in an analysis of women HCWs. Africa presents a distinctive scenario and exacerbating the pandemic's scourge is poverty, inequality and ill-equipped healthcare facilities. The WHO (2019) acknowledges the substantial limitation of African nations to effectively manage the pandemic associated with limited human resources, shortage of critical care beds and limited laboratory facilities for extensive scale testing (WHO 2019). In 2018, both the Cote d'Ivoire and Mozambique recorded only six nurses and midwives per 10 000 people; the Democratic Republic of Congo ratio was recorded at 11: 10 ,000 (WHO 2018), in contrast to the United Kingdom of 8:17 and 13: 24 in Germany (Chersich *et al.* 2020). Murthy *et al.* (2015) note that several countries across Africa have less than 30 critical care beds for their population.

The WHO (2019) has emphasised the importance of national health planning and monitoring as critical for improved health systems governance (Garg *et al.* 2020). States have asked citizens to mobilise and engage in behaviour to reduce acts of human violations and moral injury, a term originating in the military to describe the psychological distress that results from human actions, or the lack of action, which violate a person's moral or ethical code (Ivbijaro *et al.* 2020). COVID-19 has demonstrated an urgent need to strengthen the health system's six building blocks and implement the same to simultaneously ensure universal health coverage and global health security (Garg *et al.* 2020). The mandate for substantial reforms and policies to counter the impending social disturbances are related to women's health. Immutable laws, safeguarding employment, increasing awareness about women's health through social sites, support groups and organisations must be given

serious consideration alongside care and compassion. Policies geared toward improving healthcare in confronting epidemics, societal reform and stabilisation must be buttressed by scientific research (Sharma *et al.* 2020). To promote mental wellbeing among HCWs, adequate and equitable working conditions must be made available for HCWs. The required and appro-priate PPE, sufficient resting intervals and psychological support should be delivered and straightaway to compel HCWs to participate (Yalçın *et al.* 2020).

2.6 An Equitable Workplace

This pandemic has hurtled the world and its people into a state of physical, mental and social upheaval since the unpredictable and highly contagious onset of COVID-19. The varied clinical presentations, epidemiological features and seriousness of public health effect, novelty and underprepared health facilities has had a severe impact (Maqsood *et al.* 2020) As hospitals struggle to get their workforces the resources they require, the lack of COVID-19 testing and protective equipment does not just put HCWs at risk; it imperils their entire communities. The Turkish Ministry of Health established psychosocial support lines to reduce adverse psychological conditions and prevent psychological disorders caused by the pandemic. Support units were operationalised within hospitals for HCWs with heavy workloads (Yalçın *et al.* 2020). The COVID-19 pandemic in India led to the enforcement of many Acts and laws to address governance issues. The promulgation of these Acts restricted the democratic and fundamental rights of citizens. The Epidemic Diseases Act, Disaster Management Act, Essential Commodities Act, Healthcare Establishment Act (Garg *et al.* 2020) all prioritised equitable workspaces. The equitable workplace seems unlikely in the immediate future; however, the absence of equity is likely to give rise to social, economic and political dissatisfaction.

3 Methodology

In adopting a qualitative desktop methodology, this paper examines women HCWs' global experiences while providing frontline support for COVID-19 patients. The evaluation of secondary research and an intersectional theoretical framework underscores this study. The failure to recognise race, class and gendered limitations in an unequal healthcare sector provides the

motivation to review existing global scholarship on women's experiences in the sector. A secondary desktop research approach was adopted to present a gendered analysis of COVID-19 HCW experiences. COVID-19 research limitations such as face-to-face interaction, risk of infection, and no access to hospitals are key shortcomings impacting and preventing primary research in the field. These constraints have defended the use of a secondary desktop approach's logic. The ethical requirement of research is preserved. The paper is aligned to the current COVID-19 healthcare protocol identified in scientific literature, which permits a clinical healthcare model for frontline women HCWs. The clinical model amalgamates the distinctively gendered, race and class perspective that the healthcare sector reinforced in the interest of equity inpatient care delivery amid COVID-19. A review of current knowledge produced in medical sociology, social psychology, industrial sociology and science on the gendered intersecting impact of COVID-19 and patient care on women in the healthcare sector is assessed. The secondary data span from January 2020–March 2021. The key challenges and burdens experienced by women are highlighted.

4 Theoretical Framework

Intersectionality was coined by Crenshaw in 1989 to describe the interconnectedness and interrelatedness of various aspects of a person's social and political identity in the examination of different forms of discrimination and privileges (Crenshaw 1990). Crenshaw (in Mitchell, Simmons & Greyerbiehl 2014) deployed the concept of intersectionality to capture the intersection of race, gender and class in shaping the experiences of black women in the United States exposed to exponential forms of oppression and marginalization. Crenshaw highlights how various forms of identities intersect and shape experiences of privileges and discrimination (Carastathis 2014). In the context of this study the intersection of gender and racial identities as well as geographical locations in the analysis of female HCW experiences in the fight against COVID-19 are brought to the fore. It is argued that limiting gender roles that domesticate women is more evident in the lives of women of colour within the global south and therefore impacts the experiences of female HCWs in the region. While HCWs in the global north face fewer challenges because of the availability of a functional system, their counterparts in the global south are faced with complex and multi-

layered challenges that prey on discriminatory gender roles against women within a dilapidated healthcare system and less inclusive socio-political terrain. Research (Regenold & Vindrola-Padros 2021) from past epidemics and the current COVID-19 pandemic is indicative of the importance of using a gender lens when examining policy, experiences and impacts of the disease. Koehn *et al.* (2013) contend that in confronting health disparities, work has focused on incorporating cultural competence and cultural humility into clinical practice as a means of addressing needs related to race, class, ethnicity and other social categories. Within the healthcare sector, a wide range of injustices from stigmatization in healthcare encounters to inequitable access to services may be of interest to transformative service researchers (Corus & Saatcioglu 2015). It is, therefore, crucial to bring to context gender and racial identities in the analysis of the experiences of female healthcare workers.

5 The Clinical Model for Frontline Women: Healthcare Workers Amid a Global Pandemic

The proposed clinical model serves as a guide to global emergencies and pandemics similar to COVID-19, in the future, to ensure sufficient knowledge and awareness for frontline HCWs to function effectively. The proposed clinical model serves as a guide for HCWs, hospitals, clinics, government health sectors, international regulatory bodies and scholars to advance the current condition of women in the healthcare sector. The model advances policy reform, institutional modifications and a shift to acknowledging the challenges and burdens imposed on women amid a devastating global COVID-19 pandemic and in preparation for impending global health crises.

6 Conclusion and Recommendation

This study has initiated an imperative research process that has initiated the examination of front-line women HCWs globally. The delivery of viable strategies and an applied clinical model offers solutions for frontline women HCWs to address exposure risk, psychological and emotional strain, violence against HCWs, COVID-19 awareness and education, government intervention and policy reform and steps to facilitate an equitable workplace have been established.

A Clinical Model			
Innovative Approaches for Frontline Women in Healthcare			
Clinical Model for Frontline Women: Healthcare Workers Amid A Global Pandemic			
Key Indicator	**Existing Protocol**	**Proposed Modification**	**Clinical Steps**
Frontline Women in Healthcare	Women in healthcare are marginalised and exploited.	The integration of equitable gendered, race and class workplace norms.	Establish local, national and continental and inter-continental relationships and networks between professional bodies that work collectively to identify specific challenges women HCW, via Convention for Elimination of Discrimination Against Women CEDAW.
	Ineffectual considerations for women contrasted to male colleagues.	Proposed adjustment considering a diverse range of societies, cultures and geographical locations.	Create national and continental task teams to advance an inclusive system of equality for HCW via WHO and UN structures.
COVID-19 **Exposure Risk**	Women frontline workers face increased exposure. PPE generically designed for male HCWs.	Implement equitable gender division of roles and patient care. Source PPE designed for female HCWs.	Create and adopt diverse and standard practices throughout local, national continental and inter-continental scientific systems that facilitate equity for women HCW. Prioritise PPE for female HCWs.

Psychological and Emotional Strain	The use of exiting roadmaps of mental health success and wellbeing.	Create a network of scholars with a shared understanding of the psychological and emotional strain to deliver effective COVID-19 roadmaps.	Draw on professional mental health bodies to establish an advisory committee with specialists to develop clear and concise intelligence on psychological and emotional strain management.
	Intensified psychological and emotional strain COVID-19	A modified psychological and emotional wellbeing COVID-19 interventions.	Collaboration between psychiatrists, social workers and psychologists to deliver COVID-19 wellbeing interventions.
Violence Against Healthcare Workers	Gender-based violence	Implement disciplinary procedures against systems that fail to eliminate gender-based violence.	Establish procedures for HCW to follow for occurrences of gender-based violence
	Ineffective gender policy	Identify new measures with CEDAW.	Disband current guile systems.
Awareness and Education Surrounding COVID-19	Uninformed COVID-19 knowledge for all HCWs.	Create networks, databases and information dissemination systems.	Accessibility to WHO COVID-19 protocol providing clarity and support for women HCW.

Government Intervention and Policy Reform	Women HCW research is limited.	The establishment of international research networks to conceptualise research proposals to access grants will yield scholarship to enhance policy.	Promote inclusivity of practices by integration and adaptability methods established by scholars for women HCW.
	Women HCW marginalised by scholars, based on limited scholarship.	Increase funding for gender specific HCW research.	Lobby national and international institutions such as CEDAW and WHO to facilitate research via WHO and UN structures.
An Equitable Workplace	Poorly instituted gender workplace practices, evident by current statistics.	Comply with and implement existing, prescribed equitable policies and procedures.	Strengthen existing human resource gender policies – legal compliance via countries legal frameworks.

Areas such as stress, anxiety, emotional distress, trauma, exposure to the transmission and physical and mental wellbeing of women HCWs have failed to receive adequate attention. Nonetheless, the study has established that HCWs experienced varying workloads and stress levels contingent on the country in which they lived and worked. Developing countries in the global south and first-world nations in the north reported distinct lived experiences. HCWs in the north reported greater confidence in patient care lending to COVID-19 patient care specific resources. We revealed the significance of prioritising women's distinct experiences, burdened with an ever-increasing workload in the healthcare sector.

In contrast, global south HCWs confronted exposure grounded in the limited access to scarce, costly PPE mandatory to execute patient care effectively and efficiently. The correlation connecting occupational involvement in dealing with high-risk contagious, life-threatening viruses, and the hazard of exposure to COVID-19 was substantial in the scientific literature explored. Thus far, data have indicated that the distress of contracting COVID-19 has had a constrained impact on patient care and associated healthcare occupational obligations.

Similarly, a review of existing scholarship unveiled insignificant numerical or meaningful correlation between the perceived occupational threat of COVID-19 infections and women HCWs patient care approach. Despite the daunting challenges, frontline women HCWs continue to provide adequate care and support for COVID-19 patients. The study recommends scrutinising individual healthcare institutional policies to address the intersection factors impact and burden imposed on women and marginalised HCWs vis-à-vis COVID-19 patient care. This is likely to be addressed via the application of the proposed clinical model.

References

Adam-Prassl, A., T. Boneva, M. Golin & C. Rauh 2020. Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys. IZA discussion paper. Available at: https://www.iza.org/publications/dp/13183/inequality-in-the-impact-of-the-coronavirus-shock-evidence-from-real-time-surveys (Accessed on 25 February 2021.) https://doi.org/10.2139/ssrn.3590881

Allan, S.M., R. Bealey, J. Birch, T. Cushing, S. Parke, G. Sergi, M. Bloomfield & R. Meiser-Stedman 2020. The Prevalence of Common and Stress-related Mental Health Disorders in Healthcare Workers Based in Pandemic-affected Hospitals: A Rapid Systematic Review and Meta-analysis. *European Journal of Psychotraumatology* 11,1: 1810903. https://doi.org/10.1080/20008198.2020.1810903 PMid:33244359 PMCid:PMC7678680

Almaghrabi, R.H., A. Huda, H.W.A. Al & M.M. Albaadani 2020. Healthcare Workers' Experience in Dealing with Coronavirus (COVID-19) Pandemic. *Saudi Medical Journal* 41,6: 657 – 660. https://doi.org/10.15537/smj.2020.6.25101

PMid:32518935 PMCid:PMC7502944

Boneva, T., M. Golin, A. Adams-Prassl & C. Rauh 2020. Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys. *Institute of Labor Economics Discussion Paper Series* 13183. https://doi.org/10.2139/ssrn.3594017

Boniol, M., M. McIsaac, L. Xu, T. Wuliji, K. Diallo J. Campbell 2019. *Gender Equity in the Health Workforce.* Available at: https://apps.who.int/iris/bitstream/handle/10665/311314/WHO-HIS-HWF-Gender-WP1-2019.1-eng.pdf?sequence=1and isAllowed=y (Accessed on 21 February 2021.)

Cai, S.J., L.L. Wu, D.F. Chen, Y.X. Li, Y.J. Liu, Y.Q. Fan, S.H. Du, H. Huang, N. Liu, L.L. Cheng & X.L. Deng 2020. Analysis of Bronchoscope-guided Tracheal Intubation in 12 Cases with COVID-19 under the Personal Protective Equipment with Positive Pressure Protective Hood. *Zhonghua jie he he hu xi za zhi= Zhonghua jiehe he huxi zazhi = Chinese Journal of Tuberculosis and Respiratory Diseases* 43: E033 – E033.

Carastathis, A. 2014. The Concept of Intersectionality in Feminist Theory. *Philosophy Compass* 9,5: 304 – 314. https://doi.org/10.1111/phc3.12129

Centre for Disease Control and Prevention (CDC) 2020. The Importance of COVID-19 Vaccination for Healthcare Personnel. Available at: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/ recommendations/hcp.html **(**Accessed on 19 February 2021.**)**

Chan, J.F.W., S. Yuan, K.H. Kok, K.K.W. To, H. Chu, J. Yang, F. Xing, J. Liu, C.Y.Y. Yip, R.W.S. Poon & H.W. Tsoi 2020. A Familial Cluster of Pneumonia Associated with the 2019 Novel Coronavirus Indicating Person-to-person Transmission: A Study of a Family Cluster. *The Lancet* 395,10223: 514 – 523. https://doi.org/10.1016/S0140-6736(20)30154-9

Chersich, M.F., G. Gray, L. Fairlie, Q. Eichbaum, S. Mayhew, B. Allwood, R. English, F. Scorgie, S. Luchters, G. Simpson, M.M. Haghighi 2020. COVID-19 in Africa: Care and Protection for Frontline Healthcare Workers. *Globalisation and Health* 16: 1 – 6. https://doi.org/10.1186/s12992-020-00574-3 PMid:32414379 PMCid:PMC7227172

Clark, B. 2020. *Gender-based Violence and COVID-19 in South Africa*. South Africa: Lexis Nexus. Available at: https://www.lexisnexis.co.za/_data/assets/pdf_file/0005/820373/LN_ROL_CAFE_White_Paper_20201202.pdf (Accessed 15 February 2021.)

Corus, C. & B. Saatcioglu 2015. An Intersectionality Framework for Transformative Services Research. *The Service Industries Journal* 35, 7-8: 415 – 429. https://doi.org/10.1080/02642069.2015.1015522

Crenshaw, K. 1990. Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. *Stanford Law Review* 43: 1241. https://doi.org/10.2307/1229039

Crimi, C. & A. Carlucci 2021. Challenges for the Female Healthcare Workers during the COVID-19 Pandemic: The Need for Protection beyond the Mask. *Pulmonology* 27,1: 1 – 3. https://doi.org/10.1016/j.pulmoe.2020.09.004 PMid:33087308 PMCid:PMC7534894

Elkholy, H., F. Tawfik, I. Ibrahim, W. Salah El-din, M. Sabry, S. Mohammed, M. Hamza, M. Alaa, A.Z. Fawzy, R. Ashmawy & M. Sayed 2020. Mental Health of Frontline Healthcare Workers Wxposed to COVID-19 in Egypt: A Call for Action. *International Journal of Social Psychiatry* 67,5: 522-531. https://doi.org/10.1177/0020764020960192 PMid:32972298

Flynn, J., L. O'Connor, M. Hanlon, G. Bellani, M. Contreras, A. Doherty, H. Durand, E. Fallon, C. Gormley, J. Laffey & G. Molloy 2021. The Identification of Needs and Development of Best Practice Guidance for the Psychological Support of Frontline Healthcare Workers during and after COVID-19: A Protocol for the FLoWS Project. *HRB Open Research* 3: 54. https://doi.org/10.12688/hrbopenres.13117.2 PMid:33870088 PMCid:PMC8030118

Gabster, B.P., K. van Daalen, R. Dhatt & M. Barry 2020. Challenges for the Female Academic during the COVID-19 Pandemic. *The Lancet* 395,10242: 1968 – 1970. https://doi.org/10.1016/S0140-6736(20)31412-4

Garber, K., M.M. Ajiko, S.M. Gualtero-Trujillo, S. Martinez-Vernaza & A.

Chichom-Mefire 2020. Structural Inequities in the Global Supply of Personal Protective Equipment. *BMJ* 70: m2727. https://doi.org/10.1136/bmj.m2727 PMid:32669291

Garg, N., R. Garg, D.K. Sharma, S.K. Gupta & P. Dudeja 2020. Violence against the Health Care Workforce in COVID and non-COVID Times: Analysis of Predisposing Factors. *Indian Journal of Community Health* 32,4: 659 – 664. https://doi.org/10.47203/IJCH.2020.v32i04.009

Ghinai, I., T.D. McPherson, J.C. Hunter, H.L. Kirking, D. Christiansen, K. Joshi, R. Rubin, S. Morales-Estrada, S.R. Black, M. Pacilli & M.J. Fricchione 2020. First Known Person-to-person Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in the USA. *The Lancet* 395,10230: 1137 – 1144. https://doi.org/10.1016/S0140-6736(20)30607-3

Ivbijaro, G., C. Brooks, L. Kolkiewicz, C. Sunkel & A. Long 2020. Psychological Impact and Psychosocial Consequences of the COVID 19 Pandemic Resilience, Mental Wellbeing, and the Coronavirus Pandemic. *Indian Journal of Psychiatry* 62: S395 – S403. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_1031_20 PMid:33227072 PMCid:PMC7659783

Iyoha, O. & W.O. Osarogiagbon 2015. Prevalence of HIV/ Sputum AFB Positivity among Patients Attending University of Benin Teaching Hospital (UBTH). *African Journal of Clinical and Experimental Microbiology* September, 16,3: 111–118. https://doi.org/10.4314/ajcem.v16i3.5

Jefferson, L., K. Bloor, Y. Birks, C. Hewitt & M. Bland 2013. Effect of Physicians' Gender on Communication and Consultation Length: A Systematic Review and Meta-analysis. *Journal of Health Services Research and Policy* 18,4: 242 – 248. https://doi.org/10.1177/1355819613486465 PMid:23897990

Joob, B. & V. Wiwanitkit 2020. COVID-19 in Medical Personnel: Observation from Thailand. *Journal of Hospital Infection* 104,4: 453. https://doi.org/10.1016/j.jhin.2020.02.016 PMid:32114054 PMCid:PMC7134413

Joseph, B. & M. Joseph 2016. The Health of the Healthcare Workers. *Indian*

Journal of Occupational & Environmental Medicine 20,2:71–72. https://doi.org/10.4103/0019-5278.197518 PMid:28194078 PMCid:PMC5299814

Junaid, K., H. Ali & R. Nazim 2020. Depression among Healthcare Workers During the COVID-19 Pandemic in Low and Middle-Income Countries: A Systematic Review. *Annals of King Edward Medical University* 26, Special Issue: 252 – 258.

Koehn, S., S. Neysmith, K. Kobayashi & H. Khamisa 2013. Revealing the Shape of Knowledge Using an Intersectionality Lens: Results of a Scoping Review on the Health and Health Care of Ethnocultural Minority Older Adults. *Ageing and Society* 33,3: 437. https://doi.org/10.1017/S0144686X12000013

Maestro, D., S. Šegalo, D. Remić, A. Pašalić & A. Jogunčić. 2020. COVID-19 Pandemic: A Challenge for Healthcare Professionals and Assessment of Anxiety Symptoms. *Journal of Health Sciences* 10,3: 211 – 218. https://doi.org/10.17532/jhsci.2020.1073

Mahase, E. 2020a. Covid-19: Hoarding and Misuse of Protective Gear is Jeopardising the Response, WHO Warns. *BMJ*. (Published 4 March 2020.) https://doi.org/10.1136/bmj.m869 PMid:32132096

Mahase, E. 2020b. Covid-19: Retired Doctors could be Asked to Return to Work, Says Hancock. *BMJ*. (Published 2 March 2020.) https://doi.org/10.1136/bmj.m831 PMid:32122881

Maqsood, A., Ruqaya, S. Sarfaraz, A.B. Irfan, A. Faisal & H. Fatwani 2020. Healthcare Workers Knowledge, Practices and Stress Levels amidst the COVID-19 Pandemic. *Pakistan Armed Forces Medical Journal* 70,1: S244 – 250.

Marchand-Senécal, X., R. Kozak, S. Mubareka, N. Salt, J.B. Gubbay, A. Eshaghi, V. Allen, Y. Li, N. Bastien, M. Gilmour & O. Ozaldin 2020. Diagnosis and Management of First Case of COVID-19 in Canada: Lessons applied from SARS-CoV-1. *Clinical Infectious Diseases* 71,16: 2207 – 2210. https://doi.org/10.1093/cid/ciaa227 PMid:32147731 PMCid:PMC7108147

Matsuo, T., D. Kobayashi, F. Taki, F. Sakamoto, Y. Uehara, N. Mori & T. Fukui 2020. Prevalence of Health Care Worker Burnout during the Coronavirus Disease 2019 (COVID-19) Pandemic in Japan. *JAMA*

Network Open 3,8: e2017271 – e2017271. https://doi.org/10.1001/jamanetworkopen.2020.17271 PMid:32749466 PMCid:PMC7403916

Mitchell, J.D., C.Y. Simmons & L.A. Greyerbiehl 2014. *Intersectionality & Higher Education*. New York, NY: Peter Lang. https://doi.org/10.3726/978-1-4539-1407-6

Murthy, S., A. Leligdowicz & N.K. Adhikari 2015. Intensive Care Unit Capacity in Low-income Countries: A Systematic Review. *PloS ONE* https://doi.org/10,1:e0116949 https://doi.org/10.1371/journal.pone.0116949 PMid:25617837 PMCid:PMC4305307

Murthy, P R., K.V.V. Gupta & A.K.A. Kumar 2020. Is Anxiety a Rising Concern during COVID-19 Pandemic among Healthcare Workers? *Indian Journal of Critical Care Medicine* 24,5: 369 – 370. https://doi.org/10.5005/jp-journals-10071-23434 PMid:32728334 PMCid:PMC7358871

Ni, L., L. Zhou, M. Zhou, J. Zhao &D.W. Wang 2020. Combination of Western Medicine and Chinese Traditional Patent Medicine in Treating a Family Case of COVID-19. *Frontiers of Medicine* 14,2: 210 – 214. https://doi.org/10.1007/s11684-020-0757-x PMid:32170559 PMCid:PMC7088740

OXFAM South Africa 2020. *Report on the Right to Dignified Healthcare Work*. Available at: https://views-voices.oxfam.org.uk/2020/07/covid-19-in-south-africa-is-causing-frontline-women-workers-to-pay-for-skewed-health-systems/ (Accessed on 21 February 2021.)

Pappa, S., V. Ntella, T. Giannakas, V.G. Giannakoulis, E. Papoutsi & P. Katsaounou 2020. Prevalence of Depression, Anxiety, and Insomnia among Healthcare Workers during the COVID-19 Pandemic: A Systematic Review and Meta-analysis. *Brain, Behaviour, and Immunity*. https://doi.org/10.2139/ssrn.3594632

Park, C.Y., K. Kim & S. Roth 2020. *Global Shortage of Personal Protective Equipment amid COVID-19: Supply Chains, Bottlenecks, and Policy Implications* (No. 130). Asian Development Bank. https://doi.org/10.22617/BRF200128-2

Parveen, S., S. Awan, F. Rabbani, F. Pervaiz, A. Khan, F.A. Khan & N. Kausar 2020. Impact of COCID-19 On Mental Health of Healthcare Workers During Pandemic: An Experience at A Tertiary Cardiac Care

Set Up. *Pakistan Armed Forces Medical Journal.* Available at: https://ukzn.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=trueanddb=a9handAN=148431708andsite=ehost-liveandscope=site (Accessed on 5 March 2021.)
https://doi.org/10.51253/pafmj.v70iSuppl-4.6035

Perez, C.C. 2019. *Invisible Women: Exposing Data Bias in a World Designed for Men*. Random House.

Rahman, A. & V. Plummer 2020. COVID-19 Related Suicide among Hospital Nurses: Case Study Evidence from Worldwide Media Reports. *Psychiatry Research* 291: 113272. https://doi.org/10.1016/j.psychres.2020.113272 PMid:32886958 PMCid:PMC7331553

Regenold, N. & C. Vindrola-Padros 2021. Gender Matters: A Gender Analysis of Healthcare Workers' Experiences during the First COVID-19 Pandemic Peak in England. *Social Sciences* 10,2: 43. https://doi.org/10.3390/socsci10020043

Rossi, R., V. Socci, F. Pacitti, G. Di Lorenzo, A. Di Marco, A. Siracusano & A. Rossi 2020. Mental Health Outcomes among Frontline and Second-line Health Care Workers during the Coronavirus Disease 2019 (COVID-19) Pandemic in Italy. *JAMA Network Open* 3,5: e2010185 – e2010185. https://doi.org/10.1001/jamanetworkopen.2020.10185 PMid:32463467 PMCid:PMC7256664

Roter, D.L., J.A. Hall & Y. Aoki 2002. Physician Gender Effects in Medical Communication: A Meta-analytic Review. *JAMA* 288,6: 756 – 764. https://doi.org/10.1001/jama.288.6.756 PMid:12169083

Santarone, K., M. McKenney & A. Elkbuli 2020. Preserving Mental Health and Resilience in Frontline Healthcare Workers during Covid-19. *The American Journal of Emergency Medicine* 38,7: 1530–1531. https://doi.org/10.1016/j.ajem.2020.04.030 PMid:32336584 PMCid:PMC7156943

Sharma, A. & S.B. Borah 2020. COVID-19 and Domestic Violence: An Indirect Path to Social and Economic Crisis. *Journal of Family Violence* 1,7: 1 – 7. Available at: https://doi.org/10.1007/s10896-020-00188-8 (Accessed 15 January 2021.) PMid:32836737 PMCid:PMC7386835

Sharma, N., S. Chakrabarti & S. Grover 2016. Gender Differences in Caregiving among Family-caregivers of People with Mental Illnesses. *World Journal of Psychiatry* 6,1: 7.

Sharma, P., D. Jamwal, A. Mehta & J.S. Pannu 2020. COVID-19 Endangering Women's Mental and Reproductive Health. *JK Science Journal of Medical Education and Research* Oct: 106 – 109.

Singhal, T., S. Shah, R. Naik, A. Kazi & P. Thakkar 2020. Prevalence of COVID-19 Antibodies in Healthcare Workers at the Peak of the Pandemic in Mumbai, India: A Preliminary Study. *Indian Journal of Medical Microbiology* 38,3-4: 461 – 463. https://doi.org/10.4103/ijmm.IJMM_20_308 PMid:33154264 PMCid:PMC7709650

South African Nursing Council 2018. Provincial Distribution of Nursing Manpower versus the Population of South Africa. Available at: https://sanc.co.za/stats/stat2018/Distribution%202018xls.htm (Accessed on 18 January 2021.)

Tong, X., M. Ning, R. Huang, B. Jia, X. Yan, Y. Xiong & C. Wu 2020. Surveillance of SARS-CoV-2 Infection among Frontline Health Care Workers in Wuhan during COVID-19 Outbreak. *Immunity, Inflammation and Disease* 8. https://doi.org/10.1002/iid3.340 PMid:32816387 PMCid:PMC7461296

Walker, R. 2013. Walking Beyond Our Borders with Frontline Health Workers in Guatemala. *Nursing for Women's Health* 17,6: 533 – 538. https://doi.org/10.1111/1751-486X.12082 PMid:24589054

Wang, D., B. Hu, C. Hu, F. Zhu, X. Liu, J. Zhang, B. Wang, H. Xiang, Z. Cheng, Y. Xiong & Y. Zhao 2020. Clinical Characteristics of 138 Hospitalised Patients with 2019 Novel Coronavirus-infected Pneumonia in Wuhan, China. *JAMA*, 323,11: 1061 – 1069. https://doi.org/10.1001/jama.2020.1585 PMid:32031570 PMCid:PMC7042881

Wenham, C., J. Smith & R. Morgan 2020. Group W. Comment COVID-19: The Gendered Impacts of the Outbreak. *Lancet* 846 - 848. Available at: http://dx.doi.org/10.1016/S0140-6736(20)30526-2 (Accessed on 15 February 2021.) https://doi.org/10.1016/S0140-6736(20)30526-2

World Health Organisation 2019. Electronic State Parties Self-Assessment Annual Reporting Tool. Available at: https://extranet.who.int/e-spar (Accessed on 25 February 2021.)

World Health Organisation 2018. Global Health Workforce Statistics, World Health Organization, Geneva. Available at: http://www.who.int/hrh/statistics/hwfstats/ (Accessed on 21 February 2021.)

Yalcin, G., B. Sayinbatur, E. Karay & M. Karakaş 2020. Psychological Stress of Healthcare Workers Caused by the COVID-19 Pandemic. *Dicle Tıp Dergisi/ Dicle Medical Journal* 47,3: 525 – 541. https://doi.org/10.5798/dicletip.799626

Professor Mariam Seedat-Khan CCS
Howard College Campus, Memorial Tower Building,
Department of Sociology
University of KwaZulu Natal
Durban
South Africa
Seedatm@ukzn.ac.za

Dr. Oluwatobi Joseph Alabi
Department of Sociology
University of Johannesburg
Johannesburg
Damilarealabi40@yahoo.com

* Dr. Aradhana Ramnund-Mansingh
Durban University of Technology
Durban
Raakheemansingh17@gmail.com

Dr. Khalida Akbar
Durban University of Technology
Durban
Academicresearch.press@gmail.com