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Research Article

Implications of Occupational Stress and Burnout on Patient Safety at Public Hospitals in Malawi

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Due to an acute shortage of medical doctors, clinical officers (COs) in Malawi are tasked with duties that conventionally fall within the purview of the former. The purpose of this paper is to demonstrate that excessive workload and long hours of work are psychosocial hazards that contribute to occupational stress (OS) and burnout among COs at public hospitals. The study used a qualitative research approach. The study sites comprised five state-owned hospitals: Mulanje District Hospital, Chikwawa District Hospital, Balaka District Hospital, Nkhata Bay District Hospital, and Queen Elizabeth Central Hospital in Blantyre. Three methods of data collection were used: semistructured interviews, focus group discussions, and document analysis. Thematic analysis was employed as a method of data analysis. The study found that the cognitive effects of OS and burnout among COs are eventually externalized to the general public through medical errors and mistakes. The study concluded that the medical errors and mistakes associated with the cognitive effects of OS and burnout among COs pose negative impacts on patient safety. The medical errors and mistakes associated with OS and burnout are ultimately impediments to patient satisfaction. Hence, this paper coins the term 'impact shifting' to refer to the externalization of the consequences of OS and burnout among COs to the general public through poor patient safety and ultimately low patient satisfaction.

Keywords: excessive workload; long hours of work; occupational stress; patient safety; patient satisfaction

1. Introduction

Due to the acute shortage of medical doctors in Malawi, clinical officers (COs) are assigned duties that conventionally fall within the purview of the former [1–6]. Public hospitals in Malawi pose several challenges that put COs at high risk of stress and burnout on the job. These challenges are similar to what Tan [7] called 'psychosocial hazards' to refer to the factors in work management that can increase stress and even lead to health problems for employees. In this paper, occupational stress (OS) refers to "harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker" [8]. The European Agency for Safety and Health at Work [9] substantiated that "work-related stress is experienced when the demands of the work environment exceed the workers' ability to cope with (or control) them." According to Mijakoski et al. [10], burnout can be understood as a sustained OS among health workers. In addition, Maslach and Jackson [11] and Maslach et al. [12] elaborated that burnout is characterized by three main categories of symptoms: emotional exhaustion, depersonalization, and reduced personal accomplishment.

Emotional exhaustion is a "state of feeling emotionally worn-out and drained as a result of accumulated stress from your personal or work life, or a combination of both" [13], p. 2. Those who experience emotional exhaustion tend to feel helpless and out of control [11, 12]. Such feelings of disconnectedness or detachment from one's body, thoughts, or environment are what other scholars refer to as depersonalization [14]. Reduced personal accomplishment is a propensity for individuals to appraise themselves poorly

and a pervasive sense that they are no longer performing relevant and vital tasks [15]. At the workplace, depersonalization involves doubting the value of one's tasks or duties. Emotional exhaustion, depersonalization, and reduced personal accomplishment can be manifested through disruptions or breakdowns of memory, consciousness, awareness, concentration, identity, perception, and feelings of frustration, anger, depression, and resentment among others [11–15]. These symptoms can ultimately interfere with an individual's general functioning in all spheres of life including personal life and work activities [11–15].

The COs at public hospitals in Malawi may experience burnout as a multifaceted phenomenon, with each dimension manifesting in distinct ways: emotional exhaustion, depersonalization, and reduced personal accomplishment. The interplay between these three components creates a complex syndrome of burnout that affects the well-being of COs and, by extension, the quality of patient care. For instance, emotional exhaustion among the COs could lead to depersonalization as a coping mechanism, which in turn might result in reduced personal accomplishment. Throughout this paper, I refer to emotional exhaustion, depersonalization, and reduced personal accomplishment as forms of OS and burnout that confront COs at public hospitals. I further draw a connection between OS and burnout among COs with patient safety by coining a term *impact shifting* to describe the process by which the effects of OS and burnout among COs extend beyond them, ultimately affecting the general public. *Impact shifting* underscores the systemic nature of psychosocial hazards by highlighting how the well-being—or lack thereof—of healthcare workers has far-reaching implications for overall health outcomes. Hence, in light of *impact shifting*, I argue that the effects of OS and burnout among COs inhibit patient safety which ultimately impedes patient satisfaction among the masses who rely on healthcare services at public hospitals. The following is the outline of this paper: I commence with a literature review on the contextual background of OS and burnout among health professionals in general. After a discussion on the methodology, the study results are presented. Thereafter, I proceed to discuss the results of the study followed by a conclusion.

2. Background

Studies consistently report that the demanding nature of healthcare contributes significantly to OS and burnout [16–21]. Heavy workloads are a major culprit, as evidenced by Pikó [22] and Töyry [23]. For example, hospital staff often work long hours, including overnight shifts, to deliver critical care around the clock [24]. Furthermore, workplace changes such as staffing shortages, increased overtime demands, and shift work contribute to the high prevalence of stress among healthcare workers [25, 26]. These factors can lead to dissatisfaction with their jobs, as evidenced by Kivimaki et al. [27].

The stress and burnout that healthcare workers experience do not only affect their work; they spill over into their personal lives [28, 29]. OS and burnout "can reduce the enjoyment in life, cause hypertension, cardiac problems, reduce immunity. . .lead to frustration, irritability and reduce the overall status of mental and physical wellbeing" [30], p. 731. OS and burnout that healthcare workers experience not only affect their personal lives but can also reduce their job satisfaction, ultimately leading to problems with patient safety, patient satisfaction, and the overall quality of care [16, 31, 32]. Research shows a link between stressed and burnt-out healthcare workers and poorer patient outcomes. A study by McHugh et al. [33] found that nurses experiencing burnout and job dissatisfaction were connected to lower patient satisfaction. Other studies have shown that stressed and burnt-out healthcare professionals are more likely to make mistakes and provide lower quality care, ultimately harming patients [34–38]. For example, a Portuguese study by Santos da Silva Batalha et al. [38] found that nurses with high compassion satisfaction felt more invested in patient safety, while those with burnout and secondary traumatic stress felt less so [38].

Some medical errors and mistakes attributed to OS and burnout [39, 40] can further be associated with poor patient safety. The World Health Organization [41] defines patient safety as "the reduction of risk of unnecessary harm associated with health care to an acceptable minimum." Patient safety is considered a cornerstone of high quality health care as well as patient satisfaction [42]. Patient satisfaction is the congruence between the patient's expectations of hospital services and the patient's perceptions of the actual hospital services received [43–45]. Some studies have established a direct connection between the quality of health care services and patient satisfaction, such that patient satisfaction has become a key indicator of the performance of a health system [46, 47]. For instance, the Ministry of Health in Malawi identified patient satisfaction as one of the main indicators for tracking health outcomes in the country [48]. A target was set that by 2022, at least 80% of patients seeking medical attention at public healthcare facilities in Malawi should be satisfied with the services received [48].

2.1. Fundamental Cause Theory. Using the fundamental cause theory, I aim to substantiate the argument that the impacts of OS and burnout on COs are consequently externalized to the general public through poor patient safety and ultimately lower patient satisfaction. The fundamental cause theory began with Stanley Lieberson's 1985 root-cause analysis [49–51]. Later, in 1990 and 1994, James House and others conducted further investigations on the socioeconomic status and mortality to develop the theory [49, 51]. According to the fundamental cause theory, some societal factors are the root causes of diseases in people [49–52].

Link and Phelan [52], p. 81 stated that health outcomes are significantly influenced by one's socioeconomic situation and that "access to resources. . .that help individuals avoid diseases and their negative consequences through a variety of mechanisms. Thus, even if one effectively modifies intervening mechanisms or eradicates some diseases, an association between a fundamental cause and disease will reemerge." As a result, efforts to eradicate their effects may fail

if they focus simply on the processes linking them to disease in certain cases [49, 51, 52]. Link and Phelan [52], Phelan and Link [49], and Phelan et al. [51] further suggested that a social condition

1. Must affect several diseases in different ways before it can be called a fundamental cause.
2. It is important to keep track of how diseases and health issues are related to their underlying causes.
3. Individuals should be able to access resources that can help them decrease their exposure to the disease and lessen the impact thereof.

In this paper, I use the fundamental cause theory in two ways. One way is to demonstrate that psychosocial hazards at public hospitals constitute social determinants of health. Social determinants of health is a term that refers to a "complex and interlocking web of macro-level factors-'the conditions in which people are born, grow, live, work, and age'-that affect a population's health" [53], p. 299. This means that social factors play important roles in shaping health across a wide range of health indicators in the wider population [54, 55]. Secondly, I use the fundamental cause theory to show that psychosocial hazards do not just negatively affect health workers but also represent deeper social conditions that may shape health outcomes over time. Hence my argument in this paper is that the adverse effects of psychosocial hazards on the well-being of health workers indirectly influence the quality of care provided to patients. Through this theory, I will elucidate how socioeconomic disparities that manifest in healthcare service delivery may perpetuate cycles of poor health outcomes for both health workers and patients. Hence, by addressing such socioeconomic disparities, the well-being of health workers and the quality of health care delivered at public hospitals can be improved.

2.2. Contribution of This Study. The contribution of this study is that the impacts of OS and burnout extend far beyond the individual health worker. For instance, beyond the personal toll on COs' well-being, the consequences of OS and burnout inevitably manifest in the quality of care delivered to patients. For instance, when COs experience high levels of OS and burnout, their ability to perform optimally in their roles is compromised. This can lead to a myriad of adverse outcomes for patients including medical errors, lapses in judgment, and suboptimal treatment decisions. As a result, patients may receive care that falls short of accepted standards, leading to negative health outcomes and decreased satisfaction with the healthcare experience. When patients perceive the care they receive as poor, their trust in the healthcare system may diminish along with their overall satisfaction. In light of this interconnection, I have coined the term *impact shifting* which encapsulates the process through which the consequences of OS and burnout among COs are externalized to the general public through the delivery of poor-quality healthcare, resulting in poor patient safety and ultimately low patient satisfaction. This concept of *impact shifting* highlights the systemic nature of psychosocial hazards, thereby emphasizing the ripple effects that well-being of the health workers, or lack thereof, can have on broader health outcomes.

By recognizing the concept of *impact shifting*, stakeholders in healthcare service delivery can better understand the complex interplay between the well-being of health workers, quality of care, and patient satisfaction. This may therefore underscore the urgency of addressing the root causes of OS and burnout among health workers to mitigate their negative effects on both health workers and the patients they serve. Implementing interventions aimed at promoting health worker resilience, improving working conditions at health facilities, and fostering a supportive organizational culture can help mitigate the *impact shifting*. The mitigation of *impact shifting* can ultimately lead to better patient outcomes and a more effective healthcare service delivery.

3. Methodology

This study used a qualitative design with a case study as the research strategy [56]. At the time of the study, there were 28 district hospitals and 5 central hospitals owned by the state. The study sites comprised five state-owned hospitals: Mulanje District Hospital, Chikwawa District Hospital, Balaka District Hospital, Nkhata Bay District Hospital, and Queen Elizabeth Central Hospital in Blantyre [56]. These 5 public hospitals were chosen as study sites based primarily on their geographical location as well as budgetary constraints in terms of the cost of accessing a specific public hospital. While some COs are deployed to central hospitals, a bulk of them work at the secondary level of health service delivery, such as state-owned district hospitals and hospitals run by faith-based institutions [3, 57, 58].

Semistructured interviews, focus group discussions, and document analysis were the three methods of data collection that were used [56]. Amidst the COVID-19 pandemic during which the study design was formulated, the relevant ethics authorities required that data collection (semi-structured interviews and focus group discussions) should be conducted virtually to avoid human contact [56]. During data collection, the total number of COs working at the five selected public hospitals was estimated at 152. Out of 152, I recruited 25 COs to participate in the study.

I used two sampling methods for selecting study sites and recruiting respondents. Hospitals were chosen conveniently due to challenges in securing permissions and selecting those easily accessible and responsive to the requests for study permissions. I recruited the first four district hospitals and the first central hospital among the 8 considered convenient hospitals. Respondents were recruited purposively to represent COs and COs' supervisors. Through hospital administration and the Physician Assistants Union of Malawi (PAUM)[1] secretariat, I contacted and selected participants based on gender and departmental representation. Despite challenges in obtaining contact details of the respondents from some hospitals, I relied on the PAUM to connect with COs and their supervisors. Once recruited, participants were contacted via phone or email

and provided with participants' information sheets before scheduling the interviews or focus group discussions. Key informants were also selected purposively and contacted for participation through the PAUM secretariat. After confirming availability, sessions for semistructured interviews and focus group discussions were scheduled. All participants were provided with connection details for the sessions and data bundles as needed.

Each of the five public hospitals had five COs from different departments/units as respondents for both semistructured interviews and focus group discussions. One supervisor of the COs was chosen from each hospital to participate in the semistructured interviews [56]. In addition, three semistructured interviews with three key informants outside of public hospitals were conducted: a Ministry of Health-Policy/Planning specialist, a PAUM president, and an occupational health physician [56]. A total of 33 semistructured interviews with COs from five public hospitals and key informants from outside public hospitals were conducted virtually [56]. Finally, at each of the five public hospitals, a focus group discussion was virtually conducted with at least four COs representing different departments/units [56].

Another method of data collection that I used was document analysis. This involved the collection and systematic review of the following documents: policy papers, studies, and charts from the Ministry of Health and hospital administration as well as statements, reports, and memoranda from a trade union for COs called the PAUM. I began by systematically searching government databases, hospital administrations, and professional association records for documents published within the last 10 years. This ensured that the information collected reflected the current conditions faced by COs or healthcare workers. These documents were then evaluated based on specific criteria:

1. Directly address the working conditions of COs or healthcare workers in general or their responsibilities and professional challenges;
2. Explore data on OS, burnout, job satisfaction, or OS and burnout in healthcare settings;
3. Discuss policies and interventions aimed at improving healthcare worker well-being;
4. Originate from credible sources such as government agencies, accredited research institutions, or recognized professional bodies.

Following a rigorous selection process, I conducted a multistep analysis of the identified documents. First, I verified the authenticity of each document by examining its source, author, and publication date. Only documents from official sources or peer-reviewed publications were included in the final analysis. Next, I employed a coding framework tailored to the study's research questions to identify key themes related to the different dimensions of OS and burnout.

The thematic analysis was used as a method of data analysis. This method involved the transcription of recorded virtual interviews and focus group discussions [56]. The transcriptions and materials used in document analysis were subjected to thematic analysis using Atlas.ti version 9. This means that a thematic analysis was performed on the transcriptions as well as materials used during document analysis. The process of thematic analysis included creating codes, amending the codes, identifying reoccurring themes, and combining themes where applicable [59]. Four research assistants transcribed all virtual interviews and focus group discussions verbatim within 7 days of each session. This swift turnaround minimized the risk of errors and ensured that contextual details were preserved. I then conducted a thorough review of each transcript, comparing it against the original audio recording to guarantee accuracy.

Furthermore, nonverbal cues and pauses were meticulously documented within the transcripts, providing a richer understanding of the participants' responses beyond their spoken words. Following transcription, both the interview transcripts and documents gathered during document analysis were imported into the specialized software called Atlas.ti version 9 to facilitate systematic coding and analysis. Assigning a unique identifier to each data source ensured participant anonymity while also enabling me to easily cross-reference information later in the analysis process.

Each respondent was required to provide informed consent and participated voluntarily. Before the beginning of the interview/focus group session, verbal informed consent was sought and recorded.

4. Results

In this section, I present the results of the study. As illustrated in Figure 1 (below), the study found that excessive workloads and long hours of work increased the incidence of OS and burnout among COs in public hospitals. Hence, excessive workload and long work hours emerged as key psychosocial risks for COs at public hospitals.

4.1. Inadequate Staff Amidst too Much Work. There is a critical understaffing of COs at public hospitals in Malawi, which is significantly contributing to excessive workloads. This staffing shortage is evident when looking at the vacancy rate. The public sector has only been able to fill 1045 out of the 2935 authorized CO positions, resulting in a substantial gap of 64% [60]. There are only 0.82 COs available per 10,000 people [48]. This translates to a very low CO-to-patient ratio across the country. According to the World Health Organization [61], a country with less than 25 health professionals (i.e. doctors, nurses, and others) per 10,000 population cannot achieve adequate coverage of critical primary health care interventions.

Data collection at the five public hospitals revealed a widespread problem of high CO vacancy rates as shown in Table 1 (below).

As shown in Table 1, all five public hospitals suffered from high vacancy rates for COs. This staffing shortage placed a tremendous burden on existing COs, forcing them to manage excessive workloads. Given the high vacancy rates and a low CO-patient ratio[2], COs faced constant pressure to

Figure 1: Summary of study results. Source: Chinguwo [56].

Table 1: Vacancy rates for clinical officers at five public hospitals.

Name of hospital	Established positions	Filled positions	Vacancy rate (%)
Nkhata Bay District Hospital	50	21	58
Chikwawa District Hospital	69	22	68
Mulanje District Hospital	41	24	41
Balaka District Hospital	37	13	65
Queen Elizabeth Central Hospital	255	72	72

Note: Source: Chinguwo [56].

complete an overwhelming amount of work in a limited time. This pressure often resulted in COs working extended hours beyond their allotted eight-hour shifts to meet deadlines. The combination of excessive workloads and long hours led to feelings of fatigue, exhaustion, and ultimately, OS and burnout.

> *"If it happens that because of too much workload and long hours of work, we get exhausted and fatigued. Sometimes because we are exhausted and fatigued, we develop stress and burnout. Here you can see that fatigue and exhaustion lead to stress and burnout among us. In the end, this negatively affects the quality of services delivered by us"* (Interview, 05/CO/02).

4.2. Prolonged Exhaustion and Fatigue. The crippling staff shortages documented in Table 1 translated into a harsh reality for COs on the ground. The overwhelming workload forced them into a cycle of extended work hours and missed breaks. Some COs reported finishing their days significantly later than their allotted eight-hour shifts, while others simply could not afford to take meals or rest periods during their workday. This relentless pressure to keep up inevitably led to a buildup of exhaustion and fatigue, taking a significant toll on their well-being.

Focus group discussions provided a glimpse into how this situation exacerbated stress and burnout. COs from Chikwawa and Nkhata Bay district hospitals shared concerning examples. A single CO might be thrust into performing multiple lengthy surgical procedures back-to-back, including complex procedures such as amputations and C-sections. These demanding operations would typically require a full team, yet staffing limitations often meant that a single CO had to shoulder a disproportionate burden. Instead of returning home to rest and recover after such demanding shifts, these COs felt compelled to stay late and work even longer simply to compensate for the staff shortages. This constant pressure cooker environment undoubtedly contributed significantly to the high levels of OS and burnout reported by COs.

> *"At public hospitals, we were just few clinical officers far below the recommended threshold. It normally happens for one person to be on call to oversee more than three departments like paediatrics, outpatient department, maternity etc on a 12 or sometimes a 24-hour shift. You would be exhausted and fatigued while on duty for that long. This sometimes results in misdiagnosis and in some instances injuries on the patients due to our negligence amidst too much work"* (Interview, 05/CO/05).

The already heavy burden on COs due to staffing shortages was further compounded by their inability to take breaks or vacations. The intense workload and long hours created a situation where many COs felt immense pressure to forgo their annual leave. The fear of overburdening their already stretched-thin teams or facing supervisor disapproval for requesting time off often resulted in COs sacrificing their well-deserved rest. This chronic inability to take a break and recharge through vacations inevitably led to a worsening of OS and burnout among COs. Imagine the physical and mental toll of working long hours, day after day, without the chance to truly disconnect and recharge. This is the unfortunate reality many COs faced due to staffing shortages. It is a vicious cycle: the pressure to make up for missing colleagues leads to skipping breaks and vacations, which in turn further exacerbates stress and burnout, potentially reducing the CO's effectiveness and resilience on the job.

4.3. Cognitive Effects. As shown in Figure 1, the results suggest a link between OS and burnout among COs and a decline in their cognitive abilities. Interviews and focus groups revealed that COs experiencing OS and burnout reported issues such as memory lapses, forgetfulness, difficulty focusing, and poor concentration while on duty. This

suggests a potential correlation between OS and burnout and medical errors and mistakes at the five public hospitals studied.

> *"A few years ago, here at our district hospital, we had a tragic scenario associated with lack of attention and poor concentration on the job that could be associated with stress and burnout. A female colleague was on duty when one guardian came with a seriously ill patient who required urgent medical attention. She told the guardian to go outside and wait for her while she went into another room. The guardian kept on coming to the colleague to report that the patient was really struggling with life and needed urgent attention. The colleague did nothing to assist until the patient died. This was a death that could have been avoided if the colleague had swiftly acted with the urgent attention and concentration that the case deserved the moment the guardian approached her in the first instance. The guardian took the matter further, the colleague faced disciplinary action, was found at fault and sanctioned"* (Interview, 02/CO/05).

Table 2 details some of the medical errors and mistakes that COs linked to the cognitive decline they experienced due to OS and burnout, including memory lapses, forgetfulness, and difficulty focusing.

According to one CO at the Queen Elizabeth Central Hospital, due to weariness, a lack of attention, and poor concentration, some COs left surgical sponges, tools, or gadgets in a patient's stomach during a caesarean operation. The COs at the Chikwawa District Hospital and the Mulanje District Hospital gave examples of COs and nurses who faced disciplinary action from the Medical Council of Malawi for various medical blunders and mistakes. Apart from the actual medical errors and mistakes shown in Table 2 (above), COs at the Chikwawa District Hospital and the Nkhata Bay District Hospital mentioned near misses. Near misses are incidents which do not cause harm to a patient [41]. The COs at the Chikwawa District Hospital also associated near misses with cognitive effects emanating from OS and burnout.

I further discovered that COs rarely reported to their superiors the medical errors and mistakes shown in Table 2 given above as well as near misses. The COs at the Chikwawa District Hospital and the Nkhata Bay District Hospital indicated that they feared punishment, disciplinary action, litigation, and possibly losing their jobs if they reported medical errors, mistakes, and near misses. As such, most of the medical errors and mistakes shown in Table 2 and near misses remained unreported, particularly at the Chikwawa District Hospital and the Nkhata Bay District Hospital.

> *"As I mentioned earlier when you asked me if we had a policy on occupational safety and health, we don't have a policy to monitor and report on occupational safety and health hazards as well as medical errors and mistakes. Of course, we are urged to alert our superiors whenever there is an error or mistake. But sometimes colleagues are punished for being honest. You find that when you report an error or mistake, it becomes a big issue that superiors would question your competence possibly leading to a rebuke or disciplinary action against you. So, we would sometimes rather not report these errors and mistakes unless it is a case that even if you don't report, it would still be known by the superiors like an error or mistake that leads to a death of a patient"* (Interview, 02/CO/05).

I identified a critical gap in safety measures at the five public hospitals. None of them had a dedicated Occupational Safety and Health (OSH) policy in place to protect staff from injuries, accidents, illnesses, and diseases. This meant that work-related hazards, in general, and particularly psychosocial hazards stemming from stress, were viewed as the individual worker's responsibility to manage. There was a complete absence of clearly defined roles and responsibilities for hospital administration or other staff members when it came to addressing OSH hazards, such as reporting unsafe.

The lack of OSH management systems at the five public hospitals meant that they relied on a reactive approach to safety issues instead of a proactive one. This absence suggests a weak safety culture, creating a two-fold problem for staff, including COs. Firstly, the unsafe working environment led to significant frustration, fear, and anxiety among staff. Secondly, COs constantly worry about their safety, fearing increased risks of injury, illness, or even death. These ongoing anxieties and concerns over their well-being ultimately contributed to a worsening of OS and burnout among COs.

5. Discussion

This section explores the findings related to excessive workloads and long hours as psychosocial hazards for COs at the five public hospitals. I analyze these findings through the lens of existing research and theoretical frameworks, demonstrating how my study aligns with and contributes to the broader understanding of work-related stress in healthcare settings.

5.1. Long Hours of Work and Mental Well Being. The long hours routinely worked by COs in Malawian public hospitals (beyond their standard 8-h shifts) raise concerns about unfair labor practices. Malawi's Employment Act of 2000 establishes a maximum workweek of 48 h and an 8 h workday [62]. Therefore, any job, including those of COs, that consistently requires employees to exceed these limits can be considered hazardous according to the Malawian law.

My findings on excessive workloads and long working hours as a source of stress for COs in Malawian hospitals align with previous research. Similar to a study by Chalmers [63] on university staff, high workloads at the understaffed hospitals contributed to COs working extended hours. This resonates with the broader literature, where studies by Dewi and Riana [64] and Park et al. [65] established a positive correlation between heavy workloads, long working hours, and OS. Dewi and Riana [64] theorized that higher

Table 2: Types of medical errors and mistakes.

Diagnostic	Treatment	Preventive	Other
-Diagnosis delays or errors -Failure to properly execute indicated tests -Conducting outdated tests	-Errors in conducting surgical procedures or tests -Delays to provide recommended treatment/ procedure -Errors in prescription for medication	-Poor monitoring of treatment -Inadequate follow-ups on treatment	-Communication breakdown (verbal or written errors)

workloads lead to higher stress, while Park et al. [65] found a significant increase in stress complaints among those working 60+ hours a week compared to those working standard hours.

Further strengthening the link between workload, long hours, and stress, Li et al. [66] found a similar trend in their study on workers in Shanghai. Their research supports the findings of Chalmers [63]; Dewi and Riana [64]; and Park et al. [65] by demonstrating a positive correlation between excessive workloads, long hours, and OS. Li et al. [66] observed a gradual decline in mental well-being among those working 40–60 h, with a sharp rise in depression for those exceeding 60 h weekly. These findings echo the experiences of COs in my study. Just as Chalmers [63] and Dewi and Riana [64] suggested, the high workloads and long hours endured by COs in understaffed hospitals significantly contributed to fatigue and exhaustion, ultimately leading to OS and burnout. This emphasizes the real-world consequences of exceeding healthy working hours, as it can have a cascading effect on mental and emotional well-being.

My research aligns with a growing body of evidence, highlighting the detrimental effects of excessive workloads and extended work hours on mental health, particularly regarding OS and burnout. Similar to studies by Chalmers [63] on university staff, Dewi and Riana [64] on workplace stress, Park et al. [65] on university staff workloads, and Li et al. [66] on workers in Shanghai, my findings demonstrate a clear connection between these factors. In the understaffed Malawian hospitals I studied, COs were burdened by excessive workloads, which directly contributed to their experience of OS and burnout.

However, it is important to acknowledge the methodological differences between my study and the aforementioned research. While Chalmers [63]; Dewi and Riana [64]; Park et al. [65]; and Li et al. [66] utilized quantitative methods such as surveys and statistical analyses, allowing them to quantify the precise impact of workload and long hours on stress, my research employed a qualitative approach. This qualitative approach offered rich insights into the lived experiences of COs, including their feelings of fatigue, exhaustion, and the pressure to work long hours due to staffing shortages. While it provided valuable qualitative data, it limited my ability to measure the exact degree to which workload and extended hours contributed to stress and burnout levels.

Future research that bridges this methodological gap by incorporating both qualitative and quantitative methods could provide an even more comprehensive understanding of how workload, long hours, and other workplace factors influence OS and burnout among COs. This would not only strengthen the existing body of knowledge but also provide valuable insights for policymakers and healthcare administrators as they strive to create a safer, healthier work environment for COs and improve overall patient care.

5.2. Patient Satisfaction. The impact of OS and burnout among COs on the health of the population can be manifested through the poor quality of healthcare services rendered by individual COs. The poor quality of health care services provided by COs as a result of OS and burnout may negatively affect patient satisfaction.

The relationship between healthcare quality, patient safety, and patient satisfaction is complex and interconnected as shown in Figure 2 (above). Poor quality of healthcare is intrinsically linked to compromised patient safety, which in turn significantly impacts patient satisfaction. Focusing on improving patient safety can lead to an improvement of the quality of healthcare and subsequently enhanced patient satisfaction. In essence, improving patient safety is a critical strategy for elevating healthcare quality and enhancing patient satisfaction. By implementing robust safety protocols, healthcare providers can minimize risks and prevent errors, thereby improving the quality of care delivered. This, in turn, fosters greater patient trust and satisfaction, creating a virtuous cycle where high-quality, safe healthcare leads to better patient experiences and outcomes. In other words, as shown in Figure 2 (above), I identified poor patient safety as one factor that can be associated with OS and burnout, which negatively affects the quality of services by the COs. Ultimately, the poor quality of services provided by the COs may contribute to low patient satisfaction as shown in Figure 2 (above).

5.2.1. Poor Patient Safety. Increased risks to OS and burnout among COs lead to an exacerbation of risks for patients in terms of harm and adverse health outcomes. The results of the study show that memory lapses, forgetfulness, lack of attention, and poor concentration while on duty are cognitive effects of OS and burnout among COs. Some medical errors and mistakes committed by COs are associated with memory lapses, forgetfulness, a lack of attention, and poor concentration. Medical errors and mistakes are harms that have no health benefit for the patients [41, 42]. Efforts should be made to avoid such unnecessary harm on patients [41, 42].

The impacts of OS and burnout on COs are externalized to the general public through the unnecessary harm caused by medical errors and mistakes. Hence, the medical errors and mistakes that COs commit in the course of duty due to the cognitive effects of OS and burnout are manifestations of poor patient safety. This process of externalizing the consequences of OS and burnout among COs to the general public through poor patient safety and poor quality of health care is what I refer to as *impact shifting*. For instance, when health workers experience high levels of OS and burnout, their cognitive functioning may become impaired. This impairment can manifest in reduced attention, concentration, and decision-making abilities, all of which are critical for delivering safe and effective patient care. Consequently, health workers become more prone to committing errors or making mistakes in their clinical duties, which can compromise patient safety. Compromising patient safety entails *impact shifting* and ultimately low patient satisfaction.

In addition, OS and burnout can negatively impact communication and teamwork among healthcare teams. For instance, when individuals are overwhelmed by stress or

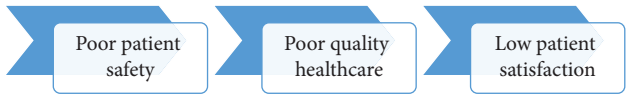

Figure 2: Patient safety and satisfaction visa-vis OS and burnout.

emotionally exhausted, their ability to collaborate effectively with colleagues may diminish. This breakdown in communication and teamwork may increase the likelihood of errors occurring during patient care, thereby further jeopardizing patient safety. Furthermore, some health workers experiencing OS and burnout may also exhibit decreased job satisfaction and motivation, leading to disengagement from their work responsibilities. As a result, they may be less inclined to adhere to established protocols and guidelines, potentially overlooking important safety measures or cutting corners in patient care delivery. Poor patient safety emanating from the breakdown of teamwork and disengagement from the job as a result of cognitive effects of OS and burnout entail *impact shifting*. Since the cognitive effects of OS and burnout are associated with medical errors, mistakes, and near misses, patients cannot be safe from harm if COs are increasingly predisposed to OS and burnout. By providing a work environment in which risk factors for OS and burnout are systematically and regularly monitored, minimized, or eliminated, the hospital staff is likely to work more effectively and safely. The COs, who are far less affected by OS and burnout, are therefore less likely to make medical errors and mistakes and more likely to avoid unnecessary harm to patients, thereby simultaneously minimizing *impact shifting*.

Interventions aimed at mitigating OS and burnout can have profound implications for patient safety. By implementing strategies to significantly reduce OS and burnout, organizations can create a healthier and more conducive work environment. As health workers experience decreased levels of OS and burnout, their cognitive functioning, communication skills, and job engagement are likely to improve, leading to a higher standard of patient care. Ultimately, by prioritizing the well-being of health workers and addressing the underlying causes of OS and burnout, public hospitals can foster a culture of safety and excellence in healthcare delivery. Patients can benefit from receiving care from healthcare professionals who are mentally and emotionally resilient, attentive, and motivated to provide the best possible care. Therefore, efforts to promote health worker well-being may not only enhance the quality of healthcare services but also contribute to overall patient safety. Avoidance of unnecessary harm to patients may ultimately lead to an increase in patient satisfaction, which is one of the important indicators for health outcomes designated by the Ministry of Health in Malawi. In this regard, the results of my study support the findings of two studies on patient satisfaction conducted in Malawi by Sinyiza et al. [67] and Creanga et al. [68]. Both studies confirmed that the quality of healthcare was a key predictor of patient satisfaction: the better the quality of healthcare, the higher the patient satisfaction, and conversely. The results of my study further substantiate a study conducted on nurses in the United States of America by McHugh et al. [33]. The researchers revealed that burnout and job dissatisfaction were connected with lower patient satisfaction. OS and burnout can therefore prevent COs from providing the health care experience that both COs and the patients may desire.

Patient safety requires that all players involved in health care service delivery should be patient-safety-minded [69]. However, the results of my study confirm that most of the medical errors, mistakes, and near misses (including those that are associated with OS and burnout) are not reported. The COs fear punishment, disciplinary action, litigation, and losing their jobs if they report medical errors, mistakes, and near misses. There is also no proper documentation of the medical errors and mistakes and no records on the measures taken to minimize or eliminate errors and mistakes at the five public hospitals. As such, failure to report and document medical errors and mistakes increases the risks to patient safety since medical errors and mistakes are prone to recur. In this regard, the results of my study qualify London et al. [70]. The authors argued that workers who are cognizant of potential harms in the workplace are sometimes reluctant to report for fear of exposure and victimization by superiors that may culminate in job losses.

5.2.2. Application of the Fundamental Cause Theory. Workplaces are more than simply spaces for earning a living; they are social determinants of health, meaning they can have a major impact on the overall health of the population [54]. Hence, the manner work is structured and managed and can greatly influence the health of the wider population [54]. The results of my study confirm that psychosocial hazards at public hospitals constitute social determinants of health. I already demonstrated that the negative effects of OS and burnout are not confined to individual COs. The negative effects are consequently externalized to the patients and the general public through the poor quality of services rendered by COs experiencing OS and burnout. I coined the term *impact shifting* to refer to this phenomenon. I, therefore, contend that the impact of psychosocial hazards on individual COs is a social determinant of health in the general population.

There are two implications that I draw from the fundamental cause theory in light of the socio-economic context of Malawi. A significant portion of the population depends on public hospitals for healthcare due to low-paid, insecure, informal jobs with minimal wages and lack of health insurance [71–74]. When faced with shortcomings in patient safety and healthcare quality at public hospitals, their limited resources leave them particularly exposed to the negative consequences. Unlike those with a higher socioeconomic status who may have the option of seeking private healthcare domestically or abroad, this low-income majority is heavily reliant on public hospitals, often the only source of free or affordable healthcare. This creates a vicious cycle: poor quality care in public hospitals disproportionately harms those who depend on it the most, potentially leading to poorer overall health outcomes and reinforcing existing social determinants of health that perpetuate these inequalities.

Secondly, the interplay between social determinants of health and the well-being of both healthcare providers and the general population. The understaffing in public hospitals creates a vicious cycle. Limited resources force the majority of the population to rely on these very facilities, where they are treated by COs at high risk of OS and burnout. This stress can lead to job disengagement and potential medical errors, ultimately worsening the quality of care for those who need it most. Essentially, the psychosocial hazards faced by COs translate into social determinants of health for the broader population, exacerbating existing health inequalities between socioeconomic classes. Those with greater financial resources can access private healthcare, effectively bypassing the understaffed public system and its potential for errors due to a burnt-out workforce. The low-income majority, however, is left vulnerable to the consequences. They are more likely to experience negative health outcomes due to a combination of factors: limited access to quality care in public hospitals, potential medical errors from stressed COs, and the inability to afford private alternatives. This reinforces the complex and dynamic interplay between social factors such as income and health. This study highlights how psychosocial hazards in the workplace, such as those experienced by COs, can have a ripple effect, ultimately contributing to deep and pervasive health inequalities in the wider population.

Implications can be drawn from the application of the fundamental cause theory. The use of the fundamental cause theory demonstrates the interconnections between the well-being of health workers and the quality of care provided to patients. Thus, it helps us understand that the adverse effects of OS and burnout among health workers indirectly influence patient care outcomes. This therefore emphasizes the importance of addressing health worker well-being as a means to improve patient outcomes. The use of the fundamental cause theory further underscores that psychosocial hazards are not just immediate determinants of health but represent deeper social determinants that have sustained impacts on health outcomes over time. This therefore highlights the need for interventions addressing these underlying social factors to improve long-term health outcomes for health workers. Such interventions can therefore lead to more sustainable improvements in health outcomes for both health workers and patients.

6. Limitations of the Study

This study acknowledges several limitations. While the research highlights excessive workloads and long hours as significant psychosocial concerns in public hospitals, other workplace factors such as poor interprofessional relations might also contribute to stress and burnout among COs in both public and private settings. Additionally, the study focused solely on the cognitive impacts of stress and burnout on COs. It is important to recognize other conditions that can also manifest emotionally, leading to feelings of frustration, depression, anxiety, fear, and mood swings. Finally, the research primarily relied on the fundamental cause theory. Future studies could benefit from exploring additional theoretical frameworks, such as the attribution theory, to gain a more comprehensive understanding of burnout and stress among COs.

Despite these limitations, this research makes a valuable contribution to the growing body of knowledge on the link between psychosocial hazards and negative health outcomes in the general population. By integrating empirical evidence with a theoretical framework, this article sheds light on the complex interplay between social and psychological factors that influence health.

7. Conclusion

The impacts of OS and burnout extend beyond individual COs at the public hospitals in Malawi. As OS and burnout among COs escalate, their consequences are externalized to patients through compromised patient safety and diminished quality of healthcare. I refer to this phenomenon as *impact shifting*. This notion of *impact shifting* underscores the interconnectedness between the health workers' well-being and public health outcomes. This therefore highlights the urgent need for attention and prioritization of psychosocial hazards at public hospitals within the existing national OSH regulations as well as the formulation of OSH policies for the health sector. The findings of this study also provide a compelling rationale for the integration of psychosocial hazards within the broader public health discourse at the national level. This is because of the implications that OS and burnout pose on health outcomes as far as *impact shifting* is concerned.

The use of the fundamental cause theory in this study makes a theoretical contribution to numerous fields such as public health, occupational health, industrial sociology, medical sociology, and healthcare management. In addition, the use of the qualitative explanatory research design produced nuanced insights into the experiences of the COs. This approach therefore enhanced our comprehension of the varied nature of stressors in the hospital setting and the impact they have on the provision of healthcare services. In other words, the qualitative approach made it possible to conduct a more in-depth investigation into the contextual elements around psychosocial hazards that influence the well-being of both the COs and general population.

7.1. Recommendations. The following are the recommendations at policy and practical levels drawn from the findings of this study:

7.1.1. Policy Level. The Ministry of Health and the Ministry of Labor, along with trade unions, healthcare worker associations, and other relevant stakeholders, should work together to

1. Establish OSH management systems across public hospitals. These OSH systems should encompass
    a. A comprehensive OSH policy for the entire health sector, applicable at both the national and hospital levels.

b. Regular psychosocial risk assessments at public hospitals. These assessments should proactively identify, minimize, or eliminate factors that contribute to OS and burnout among COs and health workers in general.

2. Develop and implement policies that ensure fair and appropriate working hours and rest breaks for COs and all healthcare workers.

7.1.2. Practical Level

1. The Ministry of Health, working alongside the Ministry of Finance, should secure additional funding to ramp up recruitment efforts for healthcare workers, particularly COs. Filling these vacant positions would directly help alleviate the excessive workloads and long hours currently faced by COs due to understaffing.
2. The Ministry of Health, in collaboration with trade unions, healthcare worker associations, and other relevant stakeholders, should develop training programs focused on OSH and patient safety for all healthcare workers. Among others, these programs should equip staff with the knowledge and skills to effectively monitor, report, and minimize psychosocial hazards, medical errors, and mistakes within healthcare facilities.

Data Availability Statement

Data for this study can be made available by the author with permission from the University of Witwatersrand.

Ethics Statement

This study was approved by the Committee on Research Ethics in the Social Sciences and Humanities in Malawi (reg. no: P.08/21/598) and the Human Research Ethics Committee (Medical) at the University Witwatersrand, South Africa (reg. no: M210558).

Consent

Every respondent was required to give informed consent and voluntarily participate in the study. Informed consent was verbally obtained and recorded.

Conflicts of Interest

The author declares no conflicts of interest.

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Endnotes

[1]PAUM is a trade union that organizes clinical officers in Malawi.

[2]A low CO-patient ratio refers to a situation when there are few COs to serve the patients. It indicates the number of COs and the number of patients they serve at the national level.

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