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Exploring Novel Dimensions of Burnout Among Malaysian Healthcare workers: A Qualitative Thematic Analysis

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ABSTRACT

Introduction: Burnout among healthcare workers (HCWs) has gained increased attention in the post-pandemic landscape due to its profound implications on workforce sustainability and patient care quality. Existing burnout assessment tools, such as the Maslach Burnout Inventory, were developed for general occupational settings and often fail to capture the unique emotional and cognitive stressors specific to healthcare environments, particularly in low- and middle-income countries. This study aimed to explore previously underrecognized dimensions of burnout among Malaysian HCWs to inform the development of a healthcare-specific burnout assessment instrument.
Method: A qualitative study was conducted using a semi-structured focus group discussion with four expert participants specializing in mental and occupational health. Data were manually transcribed and analyzed using the framework method. Coding was performed collaboratively to ensure reflexivity, consistency, and reliability.
Result: Two overarching categories, emotional exhaustion and cognitive exhaustion were identified, encompassing 11 subthemes, including hopelessness, medical errors, and cognitive dissonance.
Conclusion: Findings highlight the inadequacy of existing generic burnout tools and underscore the need for a tailored assessment framework that encapsulates the psychological complexity of HCW burnout, especially in resource-constrained settings.

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INTRODUCTION

Herbert Freudenberger first introduced the concept of burnout in 1974, describing it as a state of physical and mental fatigue arising from professional demands, leading to emotional exhaustion and decreased capacity to perform daily tasks (1). Despite early recognition, burnout has only recently received broader attention. The World Health Organization (WHO) classified burnout in ICD-11 as an occupational phenomenon, not a medical condition, defining it as a syndrome caused by unmanaged chronic workplace stress, characterized by emotional exhaustion, depersonalization, and reduced professional efficacy (2,3). Healthcare workers (HCWs) are particularly vulnerable, with increasing burnout rates in recent years (4,5). A meta-analysis by (6) revealed 11.23% global burnout prevalence among HCWs, while (7) found 45.8% of U.S. physicians reported at least one symptom. Among nurses, 31% experienced emotional exhaustion, 24% depersonalization, and 38% low personal accomplishment (8). Burnout has significant physical and psychological impacts, including pain, digestive issues, anxiety, depression, and suicidal ideation (9,10). It is associated with HPA axis dysregulation, inflammation, and brain structure changes such as reduced gray matter in the anterior cingulate and altered limbic function (11,12). Professionally, burnout leads to job dissatisfaction, medical errors, lower patient care quality, and increased mortality rates (13,14).

Burnout measures have varied in scope. These instruments are used across various service professions and are adapted to suit different target populations (15). Although currently available burnout assessment scales are considered valuable tools, they may not fully capture the distinct and intensified burnout experiences emerging among HCWs. The Maslach Burnout Inventory (MBI), the most widely used burnout assessment, has been applied in approximately 88% of burnout-related studies (16). MBI faces significant conceptual and psychometric criticisms, including poor factorial validity, problematic item wording, and overlap with depression (17,18). Importantly, the MBI treats exhaustion, cynicism, and inefficacy as separate rather than unified symptoms, undermining its claim to measure burnout as a true syndrome (19). However, there is a notable absence of a burnout assessment tool that comprehensively addresses the specific impacts on HCWs, potentially leading to underestimation or mischaracterization of burnout in this critical workforce. All the burnouts are used for general workers, yet no specific tool has been developed to cater to HCWs, especially in this current era.

Given the increasing prevalence of burnout among HCWs, it is crucial to focus on this issue. The rise of COVID-19 has significantly impacted the mental health of HCWs, particularly concerning burnout. Therefore, the primary objective of this research is to fill this gap by identifying and developing new dimensions of burnout specifically tailored for HCWs, to enhance the precision and efficacy of burnout measurement and intervention strategies in the healthcare sector.

METHODS

The development and validation of the Burnout Scale for HCWs followed a structured, three-phase process based on the instrument development guidelines proposed by (17). These phases include: (i) item development, (ii) scale development and validation, and (iii) scale evaluation. This study focused on the first phase, which involves item development. A qualitative approach grounded in an interpretivist epistemology was employed, utilizing a semi-structured focus group discussion to explore and identify nuanced dimensions of burnout experienced by HCWs. This method was chosen for its flexibility in capturing rich, context-specific insights while allowing participants to articulate personal and professional experiences in depth, thereby informing the initial pool of scale items tailored to the healthcare context. The study took place in Johor, Malaysia. The study population included a representative sample of HCW experts specializing in burnout among employees in Malaysia. Specifically, the target population consisted of HCW experts from the xxx District Health Office and Hospital xxx. Participants were required to be experts in mental health or burnout among HCWs, with at least five years of relevant clinical or research experience and active involvement in the field. Those unable to communicate in English or from foreign cultural backgrounds, were excluded to preserve contextual consistency and ensure that interpretations of burnout reflected the local sociocultural and healthcare realities. While this may limit broader generalizability, it strengthens the internal validity and relevance of the findings to the Malaysian healthcare setting.

During the FGD, experts were asked to share their opinions and knowledge about the challenges and factors contributing to burnout in the healthcare setting. Through these interactions, new items were generated, capturing the nuanced dimensions of burnout experiences that may not have been previously addressed in existing scales. The FGD

were conducted via Google Meet, and consent was obtained through Google Forms before the focus group discussion. Data collection and analysis were conducted continuously in an iterative manner. This concurrent analysis also informed further refinement of the interview guide throughout the data collection period, as necessary. Data analysis and reporting were conducted in an exploratory and inductive manner, with regular discussions among the investigators to ensure consistency in interpretation. All discussions were transcribed manually, word by word, excluding non-verbal cues such as laughter and body language. Transcription was performed by carefully listening to the audio recordings at a playback speed of 0.5 to 0.7x and typing them into Microsoft Word. The transcribed data were then analyzed using the framework method, guided by both deductive and inductive coding approaches. Initial codes were independently generated by two investigators and later refined collaboratively to develop a shared analytical framework, enhancing intercoder reliability. Specific expressions such as "hopelessness" and "pessimism" were categorized under emotional exhaustion, while terms like "loss of concentration" were mapped to cognitive exhaustion, contributing to the conceptual clarity of these burnout dimensions. All coding and thematic development were conducted manually, with highlighted codes organized systematically in a working matrix. Reflexive journaling was maintained throughout to minimize researcher bias. The study adhered to the Standards for Reporting Qualitative Research (SRQR) guidelines.

Ethical Approval

The study received ethical approval from the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (Ref: NMRR-23-03377-DOD), on 15 January 2024. Approval was granted for research conducted. All data were anonymized and securely stored, with confidentiality maintained throughout, in compliance with MREC and international research ethics standards.

RESULTS

Four expert participants were interviewed, each contributing equally and meaningfully during sessions that lasted approximately 2 hours and 3 minutes. Their demographic and professional characteristics are presented in Table 1, which has been revised for structural coherence with standardized categories such as gender, years of experience, and professional designation. The participants provided rich, in-depth insights grounded in their extensive clinical and research backgrounds, allowing the research team to achieve thematic saturation by the fourth interview, consistent with qualitative research guidance indicating that studies with a focused scope and expert informants can generate robust findings with as few as 3 to 6 participants (18). The analysis identified two principal categories of burnout emotional exhaustion and cognitive exhaustion comprising 11 subthemes in total. These categories, along with their corresponding themes, are summarized in Table 2, which presents a thematic framework grounded in existing literature. Keywords from the interviews illustrate how participants described their experiences, enhancing both conceptual clarity and contextual depth.

Table 1. Demographic of participant

Gender	Years of Experience in Healthcare	Professional Title/Position
Male	20	Public Health Physician
Female	21	Psychologist
Male	20	Psychiatrist
Female	23	Occupational health Doctor

Emotional exhaustion

Pessimism and hopelessness

When the staff came, he/she was pessimistic and felt hopeless. I was shocked by his/her situation when the staff opened my door, he/she was sad crying with trembling hands. His/her emotions were not stable.

One of the experts reflected on how HCWs frequently encounter intense emotional and psychological stress, leading to feelings of pessimism and hopelessness. The example provided vividly highlights this issue. When HCWs enter environments where they witness severe suffering and overwhelming situations, their emotional resilience can be significantly challenged. The expert described a staff member who, upon arriving, was already engulfed in

pessimism and hopelessness. This emotional state manifested in physical symptoms such as trembling hands and uncontrollable crying, indicating profound emotional instability.

Overwhelming Feelings and Depression

You can see the emotional exhaustion. Most of them will have a lot of symptoms such as frustration sadness anxiety and some will complain about emotional exhaustion like they are very tired. Because it is too overwhelming whenever we talk about work, they become very overwhelmed in their feelings.

The experts observe that HCWs often experience emotional exhaustion, which manifests frustration, sadness, and anxiety. Many HCWs report feeling overwhelmingly tired, especially when discussing work, which triggers intense emotional responses. This scenario underscores how these overwhelming feelings can lead to depression, characterized by persistent fatigue, emotional turmoil, and difficulty managing daily tasks. The constant stress and pressure associated with work exacerbate these symptoms, creating a cycle of emotional exhaustion and depression that significantly impacts their overall well-being.

Anger and Sadness

At first, he/she was angry due to the high workload. I think this is the same at all workplaces we will see the same person volunteer but after a long time he/she will be angry. The second time when I meet him/her the staff cries. Just the same as what Mrs. Mariyam encountered in the cases. Initially he/she is very angry and ends up he/she is sad because of the tiredness.

Another scenario where an individual initially feels anger due to a high workload, is a common response in many workplaces where volunteers eventually become frustrated. Over time, this anger transitions to sadness and emotional exhaustion, as noted by another expert. Repeated exposure to high stress leads to emotional breakdowns, such as crying, demonstrating the toll prolonged stress and workload can take on mental health. This transition from anger to sadness highlights the deep impact of chronic workplace stress.

Lack of Motivation and Engagement

Generally, not specifically to the specialist, they don't have poor concentration, they are very good at receiving instructions and they can carry out but inside they have no motivation. They just carried out for the sake of the work, but they don't have the motivation. Sometimes they will complain about not having work satisfaction.

Another expert describes a scenario where individuals, despite being adept at following instructions and maintaining concentration, lack internal motivation and engagement. They perform tasks solely to complete the work, without any sense of fulfilment or satisfaction. This lack of motivation often leads to complaints about the absence of work satisfaction. The disconnect between their ability to execute tasks and their internal drive highlights the significant impact of motivational deficits on overall job satisfaction and productivity.

Family Impact

They will pretend they are fine in the workplace but not when they go back home. It's worrying when they have suicidal ideation they will have hurtful behaviors. They don't know who they should talk to, and they are too tired. It is a female staff who came to meet me. I can see it affects many things including her relationship with her husband.

Another situation where an individual maintains a facade of being fine at work while facing significant challenges at home. This person grapples with suicidal thoughts and engages in self-destructive behaviors, feeling too exhausted and unsure about whom to trust with her struggles. The effects of these difficulties are extensive, impacting many areas of her life, including her relationship with her husband.

Cognitive exhaustion

Loss of Concentration

So, in general not specifically to the specialist they don't have poor concentration they are very good at receiving instructions and they can carry out but inside they have no motivation. They just carried out for the sake of the work, but they don't have the motivation.

Experts observe that some individuals, even though they maintain good concentration and effectively follow instructions, lack internal motivation. These individuals perform tasks solely to get them done, without any real drive or engagement. This absence of motivation, while not affecting their concentration, leads to a mechanical approach to their work, devoid of passion and satisfaction.

Brain Fog and Poor Concentration

With this kind of continuous work, I don't know whether this is burnout but there is staff with 'brain fog' I can see it they cannot think and try to ask surrounding opinions.

Another scenario described involves staff experiencing 'brain fog' due to continuous work. This condition results in an inability to think clearly and a dependence on others' opinions. While it is uncertain whether this is burnout, symptoms like poor concentration and mental fatigue are evident, significantly affecting the staff's ability to perform their duties effectively.

Medical Errors and Mistakes

Of course, all these are the consequences. When you don't have concentration at work you will make a lot of medical errors. Carrying out tasks would be very difficult as there is no motivation and concentration. Errors will occur.

Experts also noted that a lack of concentration at work leads to numerous medical errors. The absence of motivation and focus makes it difficult to perform tasks accurately, inevitably causing mistakes. This scenario underscores the serious consequences of poor concentration and low motivation in a medical setting, where errors can greatly affect patient safety and the overall quality of healthcare.

Decision-Making Difficulties

When we talk about the medical errors that the HCWs do it can be a lot. From administrative or public health, it can be wrong in data entry. But in clinical parts mistakes in giving medicines or identifying patients and history as well as interpreting blood results.

Experts emphasize that decision-making difficulties among HCWs lead to numerous errors. These mistakes range from administrative errors, like incorrect data entry, to clinical errors, such as wrong medication administration, patient misidentification, and misinterpretation of blood results. The complexity and high stakes of medical decisions highlight the crucial need for focus, accuracy, and effective decision-making processes in healthcare settings.

Cognitive Dissonance in Routine Work

In HCWs burnout is common because the HCWs are frontliners. So, in any form of disaster there will be displacement. This is an additional problem for HCWs. You let them be in their routine work and they are okay but there are people with burnout even in their routine work because they are doing the same thing while their motivations are high.

Another theme discussed is how cognitive dissonance in routine work leads to burnout among HCWs. Despite their frontline roles and high motivation, the repetitive nature of their tasks causes stress. This mismatch between their motivation and monotonous duties results in cognitive dissonance, exacerbating burnout and reducing overall job satisfaction.

Forgetfulness and Memory Issues

During severe floods in Batu Pahat and Segamat the staff works continuously without enough rest and their return times are beyond usual so they cannot think properly and result in error in their report.

Experts described a scenario during severe floods in Batu Pahat district and Segamat district, where staff worked continuously without adequate rest. This relentless schedule led to forgetfulness and memory issues, impairing their ability to think clearly and resulting in errors in their reports. The lack of sufficient rest and prolonged work hours exacerbated cognitive fatigue, emphasizing the critical need for adequate rest periods to maintain mental sharpness and accuracy in their tasks.

Table 2. Groups and themes

Group	Themes	Definition	Keywords from conversation
Emotional Exhaustion	Pessimism and Hopelessness	Hopelessness -a mindset where an individual anticipates that bad outcomes are likely and good outcomes are unlikely, combined with the belief that they lack the ability to influence or change the situation (19). Pessimism- tendency to anticipate undesirable outcomes or to focus on the negative aspects of a situation (20)	Trembling, shocked
	Overwhelming Feelings and Depression	Overwhelming- refer to emotional experiences that are intense, uncontrollable, and often difficult to process or manage (21). Depression -sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration (22).	Unstable, anxiety, Low spirits
	Anger and Sadness	Anger- an emotion that relates to an individual's psychological interpretation of being under attack, abused, or rejected, and is considered as a tendency towards reaction by retaliation (23). Sadness- a basic human emotion elicited in response to negative life events or experience of loss (24).	Frustration, tiredness, rude

	Lack of Motivation and Engagement	Lack of motivation- an absence of significant reduction in the desire, willingness, or drive to initiate or sustain goal-directed behaviour, often manifesting as apathy, disengagement, or minimal effort (25). Engagement- an experience that occupies attention and captures interest, involving conditions, actions, and outcomes that keep an individual involved in a task(26).	Work for the sake of work, no job satisfaction
	Family Impact	Family impact- the perceived effects of a human chronic condition on the family's psychological and social functioning, including emotional strain, financial burden, and changes in family relationships(27).	Poor Relationship, carry workload after work, Family burden
Cognitive Exhaustion	Loss of Concentration	Loss of Concentration - Loss of the ability to concentrate may occur due to multiple factors such as attentional fatigue, central nervous system toxicity, or psychological distress... It impairs the ability to organize and maintain focus on a specific activity or thought(28).	Loss focus, just follow instructions
	Brain Fog and Poor Concentration	Brain fog- a subjective experience of cognitive dysfunction, typically involving forgetfulness, difficulty concentrating, dissociation, cognitive slowing, and	Blurring, lose track, don't know what to do

		excessive mental effort (29). Poor concentration- defined as a reduced ability to focus attention or sustain mental effort, often associated with fatigue, psychological distress, or medical condition(30).	
	Medical Errors and Mistakes	A medical error- an act of omission or commission in planning or execution that contributes or could contribute to an unintended result(31). Mistakes- incorrect decisions, actions, or judgments made due to faulty reasoning, misperception, or lack of knowledge(32).	history taking mistakes, interpreting results
	Decision-Making Difficulties	Decision-making difficulties- problems individuals experience when trying to make a choice, often due to uncertainty, lack of information, emotional stress, or cognitive overload. These difficulties can impair judgment and delay or prevent decisions altogether(33).	identifying patients, task difficulty
	Cognitive Dissonance in Routine Work	Cognitive dissonance- state of mental tension that occurs whenever a person holds two cognitions (ideas, beliefs, etc.) that are psychologically inconsistent(34).	high functioning but tired, repeat routine
	Forgetfulness and Memory Issues	Forgetfulness- defined as a subjectively bothersome impairment of the ability to recall facts that are unequivocally known to be stored in the memory(35).	Can't remember, unable to think, Carelessness

DISCUSSION

The findings of this FGD highlight two important types of burnouts among HCWs, emotional exhaustion and cognitive exhaustion. Cognitive exhaustion is defined as a state resulting from prolonged cognitive effort without meaningful progress (36). This state is characterized by a decline in constructive and integrative mental processing. In other words, individuals show deficits in generative reasoning, such as the ability to create mental models, during subsequent controllable tasks (37). Creating a mental representation of a problem requires systematically integrating incoming data, a capability impaired after experiencing helplessness (38). This impairment is related to a gradual decrease in cognitive resources during an uncontrollable situation (39). Cognitive exhaustion does not imply a total inability to solve problems; rather, deficits appear mainly in new and challenging situations that require nonstandard, flexible coping strategies.

Emotional exhaustion occurs when an individual's emotional resources are completely depleted due to prolonged stress (40). This condition represents an emotional state where one lacks the internal resources needed to handle work-related demands (41). For HCWs, being overwhelmed with tasks can lead to emotional exhaustion and job dissatisfaction (42), and the situation worsens when they do not have the necessary job resources (43). The job demands–resources (JD-R) model links job demands with burnout, with role overload being a significant job demand (44), while the conservation of resources (COR) theory suggests that emotional exhaustion is more likely when job demands exceed an employee's abilities and resources (45). Employees must allocate more resources (time and energy) to meet job demands while trying to conserve their personal resources, which further aggravates emotional exhaustion (46). These subthemes inform measurable scale dimensions by translating emotional exhaustion into observable indicators such as persistent hopelessness, difficulty coping, and emotional withdrawal, which support the development of valid burnout scale.

The group of cognitive exhaustion includes six themes. These themes are loss of concentration, brain fog and poor concentration, medical errors and mistakes, decision-making difficulties, cognitive dissonance in routine work, and forgetfulness and memory issues. The first them discussed were poor and loss of concentration. A study by Sonnentag revealed that HCWs frequently experience mental fatigue and struggle to detach from work during their off-hours, resulting in prolonged concentration issues (47). For instance, a study found that stress prevalence among the U.S. workforce significantly impacts concentration, with approximately 38% of workers experiencing impaired performance (48). This mental fatigue is intensified by the high job strain and demanding nature of healthcare work, which requires sustained attention and emotional involvement. Meijman supports this, showing that extended work hours and continuous exposure to stressors significantly diminish cognitive efficiency and concentration (49).

The next theme discussed was medical errors and mistakes. Medical errors are a major global challenge for health systems, ranking as the third leading cause of death in the USA, with annual deaths estimated between 44,000 and 98,000 (50). These errors negatively impact patients and the quality of medical practice, as the fear of litigation forces physicians to practice defensively (51,52). The societal implications include significant financial costs, such as prolonged hospital stays, and non-financial costs, like increased patient suffering (53). According to Bari, medical errors result from failures in proper planning or execution, leading to unintended outcomes and patient harm (54). Additionally, research suggests that factors such as burnout, work-life conflict, and bullying significantly increase the occurrence of medical errors (55).

The subsequent theme explored was challenges in decision making. Burnout leads to significant decision-making difficulties, impacting their ability to provide optimal care. Physicians and nurses on the frontlines of the COVID-19 pandemic face unprecedented situations, often requiring critical decisions for patients and their personal lives. One significant challenge HCWs encounter is moral distress, characterized by emotional pain and discomfort when they cannot act according to what they believe is right due to realistic or increasing mental constraints. Around one-third of physicians suffer from burnout, which negatively impacts their well-being and the quality of care they provide (56). During the pandemic, HCWs in COVID-19 hospitals faced increased professional exhaustion and depersonalization, worsening decision-making difficulties. Furthermore, among critical care practitioners, 25% report severe burnout symptoms, with workplace dissatisfaction and lack of empathy significantly contributing to these decision-making challenges (57).

The succeeding theme explored cognitive dissonance, a form of psychological stress triggered by the presence of conflicting beliefs, values, attitudes, or behaviors, which leads to mental discomfort and emotional

distress (58). This phenomenon has become increasingly common in workplace settings, particularly among employees engaged in service-oriented roles. In the healthcare sector, cognitive dissonance is especially prevalent, significantly impacting the mental and physical well-being of HCWs. For instance, a study in Sweden found that over 25% of primary care physicians experienced high levels of unnecessary and illegitimate tasks, contributing to a deteriorated psychosocial work environment (59). Similar patterns were observed in the Netherlands, where 42% of hospital physicians reported burnout, 29% experienced depression, and 24% suffered from anxiety, all factors contributing to cognitive dissonance (60). Other studies highlight that work stress, dissatisfaction, and excessive workloads are strong predictors of presenteeism, further reflecting the psychological burden of dissonance in professional roles (61). HCWs who reported high workloads also expressed poor self-rated health and negative expectations about their future work conditions (62). Additionally, symptoms such as headaches, sleep disturbances, and burnout have been linked to dissonance arising from overwhelming job demands, tight schedules, and an imbalance between effort and reward (63). The COVID-19 pandemic further intensified this mental strain, with primary care workers facing elevated psychological distress (64). Neurologically, cognitive dissonance has been associated with alterations in the prefrontal cortex and basal ganglia, disrupting limbic-prefrontal connectivity and impairing memory retention and recall (65).

The following theme discussed was the issue of forgetfulness among HCWs due to burnout, which is highly prevalent and influenced by various factors. A study from Cameroon found a 63% prevalence rate of burnout among healthcare personnel, with frequent forgetfulness being a significant associated factor (66). Causes of burnout and resulting forgetfulness include inefficient work processes, clerical burdens, and work-home conflicts. Additionally, the emotional strain of not being able to provide the desired level of care significantly contributes to this. (67). This mental and emotional fatigue impairs cognitive functions, leading to forgetfulness among HCWs.

Five themes were grouped and discussed under emotional exhaustion, starting with hopelessness. Hopelessness is a psychological state characterized by a negative outlook on the future, commonly found in various psychiatric disorders (68). Individuals experiencing hopelessness believe that nothing will work out for them, they will not succeed in life, their significant goals are unattainable, and their problems are unsolvable (69). This concept aligns with the third component of Aaron T. Beck's cognitive model of depression, which includes a negative view of oneself, a negative view of the present, and a pessimistic view of the future (70). Hopelessness is associated with anxiety, depression, suicide, schizophrenia, and substance abuse (71). Clinically, it is a valuable indicator for assessing and predicting suicide risk (72).

During the pandemic, HCW have faced prolonged stress, leading to feelings of hopelessness (73). The sheer volume of critically ill patients, insufficient resources, and high mortality rates contribute to a sense of despair. HCWs often feel powerless, lack control over their environment, and question the impact of their efforts (74,75). Research indicates a positive correlation between hopelessness and burnout dimensions (76,77). An individual experiencing hopelessness may have a negative self-view, anticipate adverse future outcomes, and believe that their current situation will not improve. A meta-analysis of longitudinal studies found that higher hopelessness scores increase the odds of suicidal ideation by 2.19 times (78).

The next themes discussed were overwhelming feelings and depression. Depression is a prevalent mental health disorder globally, leading to significant suffering and decreased performance in education and work settings for those affected (79). HCWs are a particularly high-risk group for adverse mental health outcomes. Research indicates that HCWs frequently experience high levels of psychological distress and burnout, including depression and anxiety due to the demands of their profession (80). Depression rates among HCWs (HCWs) are notably high. Studies in high-income countries, Egypt, and Iran have reported widespread depressive symptoms among HCWs, often linked to heavy workloads, staffing shortages, and low wages (81). Prolonged exposure to high stress levels not only adversely affects HCWs but also has the potential to compromise patient safety and the quality of care provided.

Additionally, anger was another theme discussed in relation to burnout. Workplace aggression is prevalent, especially among HCWs like nurses, who face aggression from both patients and colleagues (82). This issue is a long-standing problem that has intensified recently, threatening their wellbeing and right to a safe work environment (83,84). This aggression can be physical, involving force that causes harm, or verbal, including abuse and derogatory language. Occupational stress and anger contribute to emotional exhaustion and adverse interactions, provoking aggression (85,86). Despite ethical concerns limiting extensive research, existing studies reveal that HCWs frequently

experience anger due to stressful conditions, particularly during recent crises (87,88). A national survey in the UK during the first pandemic wave found that over half of participants reported anger and confrontation (89). Research indicates that aggression, cynicism, and emotional exhaustion in hospital staff predict distress from increased workloads, contributing to higher depression levels (90). Past outbreaks have shown that quarantined nurses experience anger due to perceived health threats (91), and during these times, studies have linked psychological fatigue with work stress, anger, and job turnover among nurses (92).

Furthermore, another theme discussed was the lack of motivation and engagement, which contributed to burnout. Prior research has shown that the occupational health of HCWs is linked to their motivation at work (93). Motivation is a complex and dynamic mental construct that includes bio-psycho-social dimensions such as emotions, life experiences, and personal relationships, which activate, guide, and sustain human behavior. As a crucial element of the relationship between an individual and their organization, work motivation can be seen as the force driving an individual to diligently engage in their job, arising from a need or problem that creates an urge to address it (94). Evidence suggests that individuals with higher levels of autonomous motivation are generally healthier and more productive than those whose motivation is primarily controlled (95). Autonomous work motivation is associated with positive occupational health indicators, such as job satisfaction, psycho-physical well-being, and lower turnover rates. Conversely, controlled motivation is either negatively associated or unrelated to these health indicators (96). Specifically, a recent survey of over 3,500 physicians found that those with high levels of autonomous motivation reported better occupational health status (97). For HCWs, work discomfort increases the risk of burnout syndrome. Workload significantly impacts HCWs ' motivation; manageable workloads lead to higher motivation (98), while heavy, unmanageable workloads are common in various health facilities and contribute to pressure from administrative tasks, overtime, overwhelming responsibility, and staff shortages (99–101). Sharing workload, support, and team spirit are motivating factors that help address workload-related challenges (102). A study in Tanzania found that HCWs in medium-sized health facilities (300–1000 patients per month) reported higher motivation than those in large facilities (>1000 patients per month) (103).

Another theme discussed was the impact on family, which is related to burnout. Family and job demands are interconnected, with stress from family responsibilities influencing workplace pressure and vice versa, affecting HCWs job performance and functionality (104). Due to shift work, inconsistencies in schedules, and lack of control over their working hours, HCWs often struggle to balance tight schedules between work and family activities, especially when both spouses work (105,106). Additional factors, such as having children, can increase stress, but strong family cohesion and larger family sizes can mitigate the negative effects of burnout and aid recovery (107). Childless workers may face expectations to work extra hours or be more flexible to accommodate colleagues with rigid schedules due to family responsibilities (108). Studies show that HCWs dealing with combined job and family demands are more likely to suffer from sleep deficiency, musculoskeletal pain and burnout (109,110). Burnout is often linked to work-family conflict when individuals struggle to manage responsibilities at work and home, leading to arguments, insufficient time at home, and increased work tasks, resulting in exhaustion and unhappiness (111). Furthermore, During the COVID-19 pandemic, HCWs also faced the additional worry of infecting their families due to their high risk of exposure to the virus (112).

Study contribution and limitation

This study contributes to the development of a novel conceptual framework for understanding burnout among HCWs, particularly by identifying underrecognized emotional and cognitive dimensions grounded in expert perspectives. However, its empirical generalizability is limited by the small, homogenous sample of four experts from a single district, which may not capture the full range of burnout experiences across different healthcare settings or roles. The use of virtual interviews may have further restricted the depth of contextual insights. Future research should focus on validating this framework through quantitative methods, including exploratory and confirmatory factor analysis, construct alignment with existing burnout measures, and testing predictive validity across larger and more diverse healthcare worker populations.

CONCLUSION

The study underscores the significant impact of burnout on HCWs, pinpointing emotional and cognitive exhaustion as key factors. Emotional exhaustion is characterized by feelings of pessimism, hopelessness, depression, anger, and a lack of motivation, all of which adversely affect both personal and professional aspects of life. Cognitive exhaustion results in concentration difficulties, brain fog, impaired decision-making, and an increase in medical errors. Burnout is aggravated by high job demands, insufficient resources, and work-family conflicts. These issues have been intensified by the COVID-19 pandemic, further harming HCWs' mental health and job satisfaction. To address burnout, targeted strategies are necessary, including manageable workloads, adequate rest, supportive work environments, and specific burnout assessment tools designed for HCWs to alleviate the negative impacts on both staff and patient care.

AUTHOR'S CONTRIBUTION STATEMENT

The author is the sole contributor to this research. All components of the study, including conceptualization, methodology design, data collection, analysis, interpretation, and manuscript writing, were independently conducted by the author without the involvement of co-authors or external collaborators.

CONFLICTS OF INTEREST

The authors declare no competing interests. The research was conducted independently, without any financial or commercial influences that could lead to potential conflicts.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

No generative AI or AI-assisted technologies were used in the preparation or writing of this manuscript. The content presented is entirely original and the result of the author's independent intellectual effort.

SOURCE OF FUNDING STATEMENTS

Informed Consent

Informed consent was obtained from all participants prior to their involvement in the research.

Registry and Study/Trial Registration

This research is registered with the identifier xxxx, ensuring accountability, public accessibility, and verification of the safety and validity of the data gathered for health interventions.

Animal Studies

No animals were involved in this study.

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