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BURNOUT AND PSYCHOLOGICAL HEALTH AMONG HEALTHCARE WORKERS IN KSA: A SYSTEMATIC REVIEW

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Abstract

Background: Burnout, a state of emotional exhaustion, depersonalization, and reduced personal accomplishment, is a significant issue among healthcare workers (HCWs) globally, and particularly in Saudi Arabia (KSA), where unique challenges such as long working hours, high patient loads, and cultural expectations exacerbate psychological distress. The impact of burnout on HCWs' mental health is a pressing concern, influencing their well-being and patient care quality. This systematic review aims to synthesize evidence on the prevalence, risk factors, and consequences of burnout among HCWs in KSA, with the goal of identifying targeted interventions for psychological support.

Methods: A comprehensive systematic search was conducted across major databases, including PubMed, Cochrane Library, Scopus, Embase, and Web of Science, for studies published between 2010 and 2024. Keywords such as "burnout," "psychological health," "healthcare workers," and "Saudi Arabia" were combined using Boolean operators. Studies eligible for inclusion included cross-sectional, cohort, case-control studies, and qualitative research exploring burnout and its impact on mental health among HCWs in KSA. Quantitative outcomes, such as burnout prevalence and psychological health measures (e.g., anxiety, depression), were synthesized through meta-analysis where applicable. Qualitative findings were analyzed thematically.

Results: A total of 25 studies were included in the review. The overall prevalence of burnout varied, with emergency physicians (88.7%) and nurses (87.2%) showing the highest levels of emotional exhaustion. Depersonalization was also high among ICU workers (82%) and perioperative nurses (56.4%), while personal accomplishment was notably low across specialties like oncology workers (72%) and dialysis nurses (42%). The findings suggest a strong correlation between high burnout levels and psychological distress, including depression and anxiety. Healthcare professionals in high-stress specialties experienced significant burnout, negatively impacting their mental health and professional satisfaction.

Conclusion: This systematic review highlights that burnout is a prevalent issue among HCWs in KSA, with particularly high rates in emergency physicians and nurses. The review emphasizes the need for targeted mental health interventions and organizational support to reduce burnout and enhance the psychological well-being of HCWs. Strategies such as improving work-life balance, providing mental health resources, and fostering supportive work environments are essential to mitigate burnout and its negative consequences on both healthcare professionals and patient care.

Keywords: Burnout, Psychological Health, Healthcare Workers, Mental Health, Saudi Arabia

Introduction

Medical professionals from all walks of life are susceptible to burnout, which affects many different fields of work [1-3]. However, it is more widespread in the stressful healthcare business. Depersonalization (DP), emotional exhaustion, and a diminished feeling of personal accomplishment are hallmarks of prolonged work stress [4]. Long hours, high workloads, and the emotional toll of caring for sick or injured patients all contribute to medical professionals' susceptibility to burnout [1]. There is growing concern about the fact that medical practitioners experience burnout at a rate fifteen times higher than other professions [5]. In addition, medical mistakes are more common, patients get worse treatment, and doctors are more likely to have burnout-related health problems including coronary artery disease, peptic ulcer disease, sleep problems, and mental health issues [5-6].

Additionally, the traditional expectations put on residents and the hierarchical nature of medical school might exacerbate burnout [7]. Feelings of embarrassment about displaying vulnerability, worries about professional reputation, and fear of criticism may all contribute to a resident's experience of isolation. Both burnout and the inability to learn effective coping mechanisms may be exacerbated by this absence of psychological stability [8]. A prior research indicated that burnout rates among residents were much greater than those in other occupations. The research went on to say that the fields of surgery and emergency medicine were among the most hit [9].

Responding to potentially fatal medical crises is a high-stakes job for residents in the fields of emergency medicine and surgery. Patients with trauma and surgical crises are common, constituting high-acuity instances that they often confront. Long shifts, judgments that might affect someone's life or death, and an overwhelming number of patients all contribute to the special difficulties of these situations [10, 11]. Therefore, burnout is a major problem in emergency and surgical residency programs due to the nature of the job. Another risk factor for burnout is chronic stress, which may be brought on by the unpredictable and intense nature of emergency situations [4, 12]. A great deal of adaptability and resilience is required in such a setting since life-threatening situations are prevalent and quick judgments are needed. Residents may experience emotional fatigue (EE) and burnout as a result of their struggles to deal with the emotional strain of their job.

Extremely high rates of burnout among emergency and surgical residents are a major concern in the medical field, endangering both the well-being of staff members and the quality of treatment that patients receive [1, 3, 9]. Research has connected burnout to a decline in patient care quality, an increase in medical mistakes, and worse work satisfaction [13]. It is quite worrisome that the demanding nature of medical residency is leading to a rise in resident burnout, especially in surgical and emergency departments [13, 14]. All of these things highlight how critical it is to fix this right now. By taking specific actions guided by knowledge of the factors that contribute to and impact burnout, healthcare institutions may create an environment where residents feel supported, resilient, and cared for.

Methods

Burnout, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment, was identified as a significant issue among healthcare workers (HCWs), particularly in high-stress environments. In Saudi Arabia (KSA), the healthcare sector faced unique challenges, including long working hours, high patient loads, and cultural expectations, which contributed to elevated risks of burnout and psychological distress. Understanding the prevalence, risk factors, and consequences of burnout was essential for developing targeted interventions to support HCWs' mental health. This systematic review aimed to synthesize evidence on burnout and its impact on psychological health among healthcare workers in KSA, providing insights into potential preventive and management strategies.

Review Question

The primary question addressed in this review was: What was the prevalence of burnout among healthcare workers in KSA, and how did it affect their psychological health?

Search Strategy

A systematic search was conducted in major databases, including PubMed, Cochrane Library, Scopus, Embase, and Web of Science, for studies published in English from 2010 onwards. Search terms included combinations of keywords such as "burnout," "psychological health," "healthcare workers," "mental health," "Saudi Arabia," and "occupational stress." Reference lists of relevant articles were also screened to ensure a comprehensive search.

Types of Studies Included

Eligible studies included cross-sectional studies, cohort studies, case-control studies, and systematic reviews addressing burnout or psychological health among HCWs in KSA. Qualitative studies exploring experiences and perceptions of burnout were also included. Studies focusing on non-healthcare populations or unrelated to KSA were excluded. Studies conducted during COVID-19 pandemic were excluded. In addition, studies including medical students were excluded.

Participants

The review focused on healthcare workers in KSA, including physicians, nurses, allied health professionals, and support staff, regardless of age, gender, or years of experience.

Search Keywords

Keywords used in the search included terms such as "burnout among healthcare workers," "psychological health of healthcare professionals," "stress in medical staff," "Saudi Arabia healthcare mental health," and "healthcare worker wellbeing in KSA." These were combined using Boolean operators to optimize the search.

Study Selection Process

Two independent reviewers screened titles and abstracts for relevance based on inclusion and exclusion criteria. Full-text articles of potentially eligible studies were reviewed for final inclusion. Discrepancies between reviewers were resolved through discussion or by consulting a third reviewer. The study selection process was documented using a PRISMA flow diagram.

Outcomes

The primary outcomes included the prevalence and severity of burnout among HCWs and its associated factors. Secondary outcomes focused on psychological health metrics such as anxiety, depression, and overall mental well-being, measured using validated tools.

Data Extraction and Coding

Data were extracted independently by two reviewers using a standardized form. Extracted information included study details (author, year, design), participant characteristics (sample size, demographics), assessment tools, key findings, and reported limitations. Discrepancies in data extraction were resolved through consensus or consultation with a third reviewer.

Data Management

All extracted data were stored in a secure, organized database such as Excel or systematic review software. Duplicate records were removed, and quality checks were performed to ensure accuracy. For quantitative studies, meta-analyses were conducted to synthesize findings, while qualitative data underwent thematic analysis. A transparent and replicable process was maintained throughout the review to ensure methodological rigor.

Results

The initial search identified a total of 1547 studies from PubMed, Embase, Cochrane Library, and CINAHL. There were 321 articles excluded due to their irrelevance. At the end of identification process, 1226 articles were screened. Of these, 632 full-text articles were reviewed, and 24 studies were eligible for inclusion in this systematic review (Figure 1).

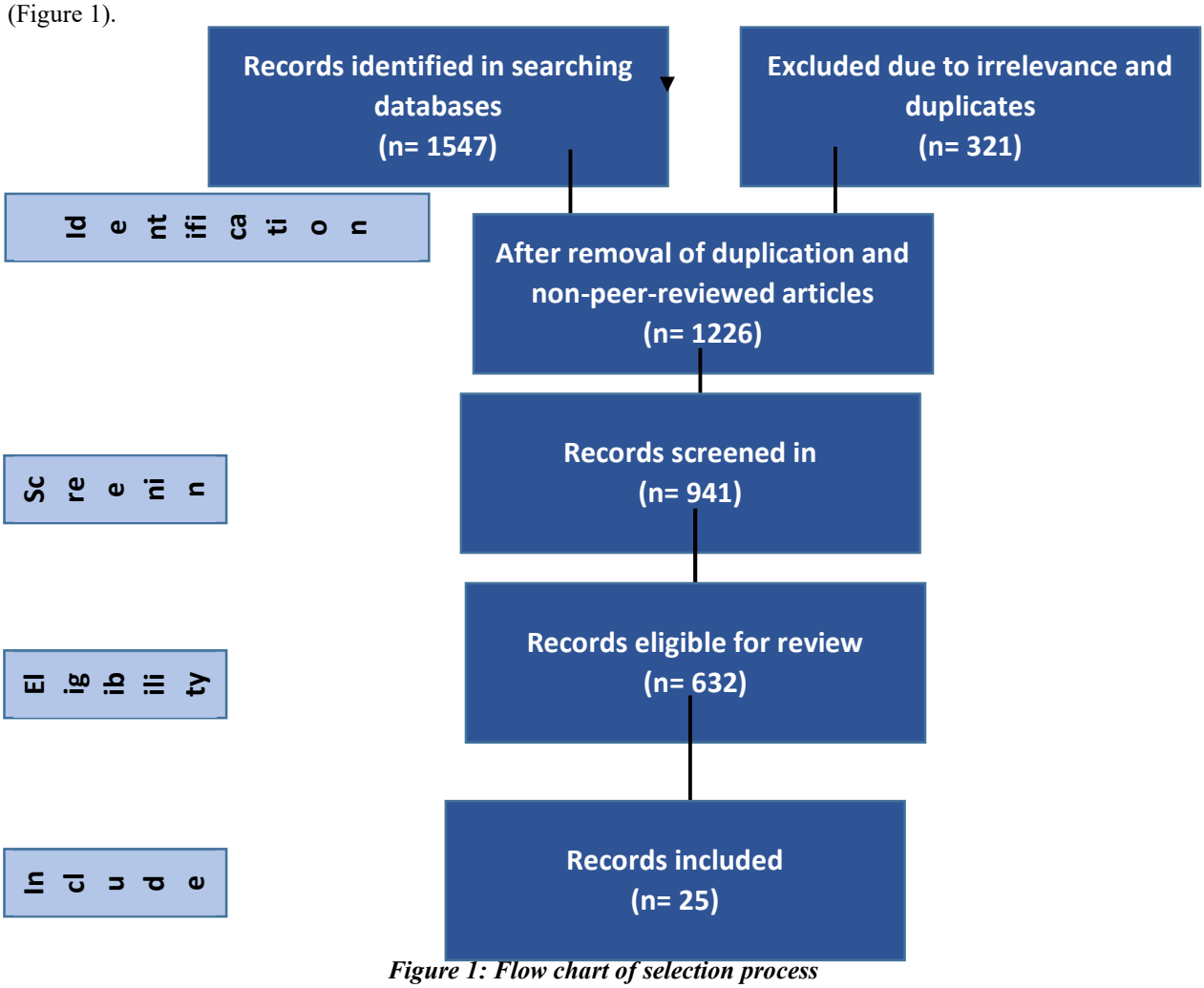

Figure 1: Flow chart of selection process

The 25 included studies [15-39] explored burnout, stress, and related factors among healthcare workers across various regions, settings, and professions in Saudi Arabia and neighboring countries. Despite differences in focus, the studies share notable similarities and highlight common challenges faced by healthcare professionals. Table 1 summarizes methodological characteristics of the included studies.

All studies utilized cross-sectional designs, relying predominantly on validated tools like the Maslach Burnout Inventory (MBI) to assess burnout across its three dimensions: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). Many studies, such as those by Al Owa et al. [15] and Siraj et al. [24], found high levels of burnout among healthcare workers, particularly in environments with significant workloads, emotional demands, and limited organizational support. Across settings, the prevalence of burnout was consistently associated with demographic factors such as gender, age, and marital status.

Several studies also highlighted the correlation between burnout and workplace stressors, including staff shortages, high patient loads, and long working hours, as seen in Almodibeg & Smith [26] and Alqahtani et al. [29]. The impact of workplace factors on burnout levels was particularly emphasized in studies examining high-demand environments, such as ICUs during Hajj [27] or autism centers [18]. Mental health factors like depression and anxiety were frequently

investigated alongside burnout, with studies such as Alwhaibi et al. [16] demonstrating a strong association between depressive symptoms and higher burnout risks.

While the overarching themes are similar, the studies differed significantly in their populations, tools, and contexts. The target populations ranged from specialized professionals like radiographers [23] and plastic surgery residents [30] to more generalized groups, such as healthcare workers in primary health care centers [28]. This variability led to differences in findings, particularly regarding burnout prevalence. For instance, while Aldrees et al. [30] reported a burnout prevalence of 18% among plastic surgery residents, other studies, such as Hamdan et al. [21], found moderate to severe burnout rates as high as 70% in oncology healthcare workers.

The methodologies also varied in scale selection and additional factors assessed. For example, Alghadier et al. [33] used the Copenhagen Burnout Inventory alongside the Nordic Musculoskeletal Questionnaire to examine links between burnout and physical health, while studies like Karkar et al. [38] focused on dialysis nurses' coping mechanisms using modified tools. These methodological differences provide nuanced insights into burnout's multifaceted nature but make direct comparisons challenging.

Geographical and cultural contexts also shaped the findings. Studies conducted during high-stress periods, such as Hajj [27, 39], reported significantly higher burnout rates due to increased workloads and exposure to workplace violence. In contrast, studies conducted in more controlled hospital environments [22] reported lower rates, suggesting that external factors like mass gatherings exacerbate stress and burnout.

The levels of Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA) varied significantly among the 25 studies, reflecting differences in participant demographics, settings, and work conditions (Table 2).

Emotional Exhaustion (EE)

High levels of EE were reported in studies such as Alqahtani et al. (88.7%) [29] and Almodibeg & Smith (87.2%) [26], particularly among emergency and perioperative healthcare workers who faced extreme workloads and stress. These findings align with the intense, high-pressure nature of these roles. Conversely, studies like Al-Sareai et al. [31] and Baghdadi et al. [22] reported lower levels of EE (29.5% and 51%, respectively), potentially due to better work-life balance or differing workplace demands. Notably, residency programs [32] also reported high levels of EE (81%), reflecting the demanding schedules faced by trainees (Figure 2).

Depersonalization (DP)

Moderate to high DP levels were commonly observed, such as in Rugaan et al. (82%) [27] and Almodibeg & Smith (56.4%) [26]. ICU staff and perioperative nurses frequently reported detachment from patients, likely exacerbated by high workloads and emotional stressors. Lower DP levels were noted in settings with structured support, such as Al-Sareai et al. (15.7%) [31] and Al-Ghamdi et al. (19.5%) [25], suggesting that adequate workplace resources and manageable workloads can mitigate depersonalization (Figure 3).

Personal Accomplishment (PA)

The levels of PA varied more significantly across the studies. High PA levels were observed in studies like Al-Ghamdi et al. (79.7%) [25] and Alenezi et al. (76.5%) [18], where workers reported greater satisfaction and professional fulfillment, possibly due to meaningful roles or less overwhelming stress. In contrast, studies such as Almodibeg & Smith [26] and Rugaan et al. [27] reported low PA levels (15.4% and 28%, respectively), highlighting the negative effects of stressful environments and inadequate support systems (Figure 4).

Certain professions and settings consistently demonstrated higher burnout risks across all dimensions. For example, emergency and ICU healthcare professionals, such as those in Alqahtani et al. [29] and Rugaan et al. [27], experienced high EE, DP, and low PA, emphasizing the intense challenges these roles pose. Conversely, studies focusing on family medicine residents [25] and autism center workers [18] found higher levels of PA, indicating greater professional satisfaction despite moderate to high EE.

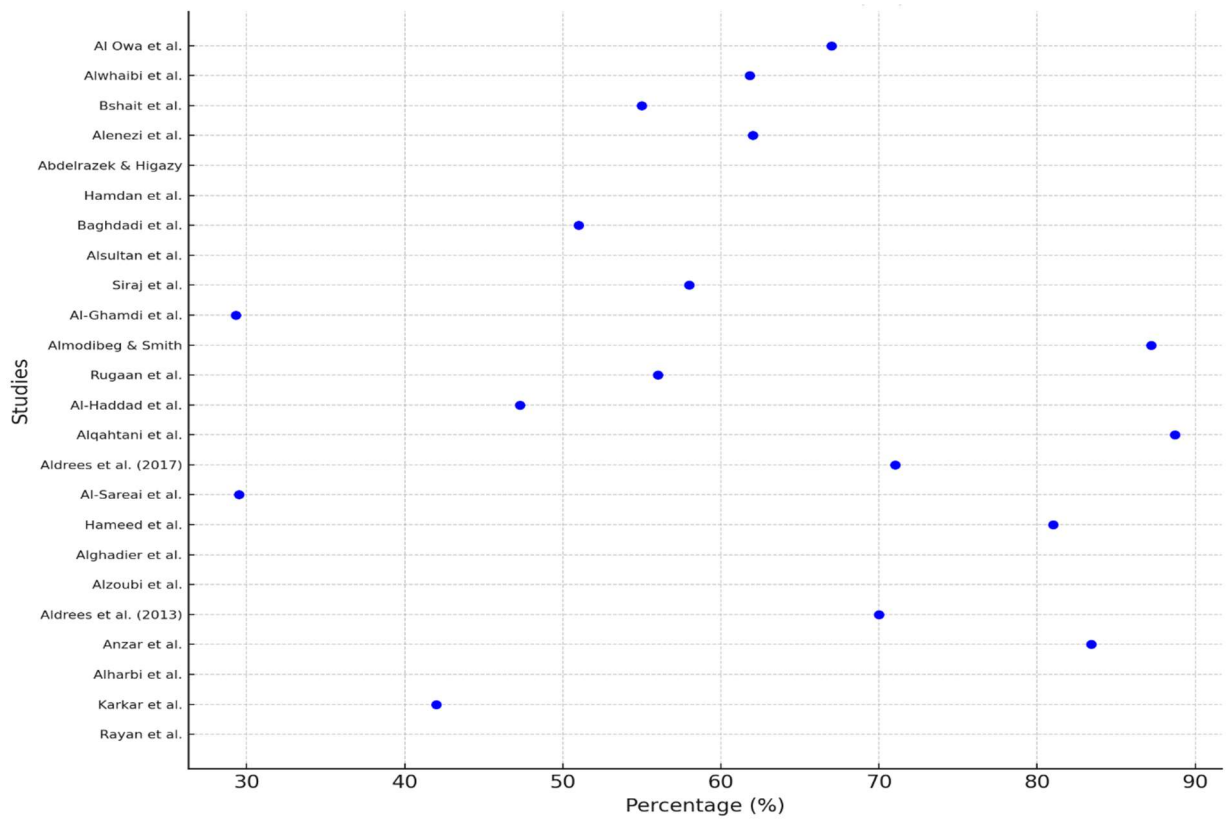

Figure 2: Emotional Exhaustion by study

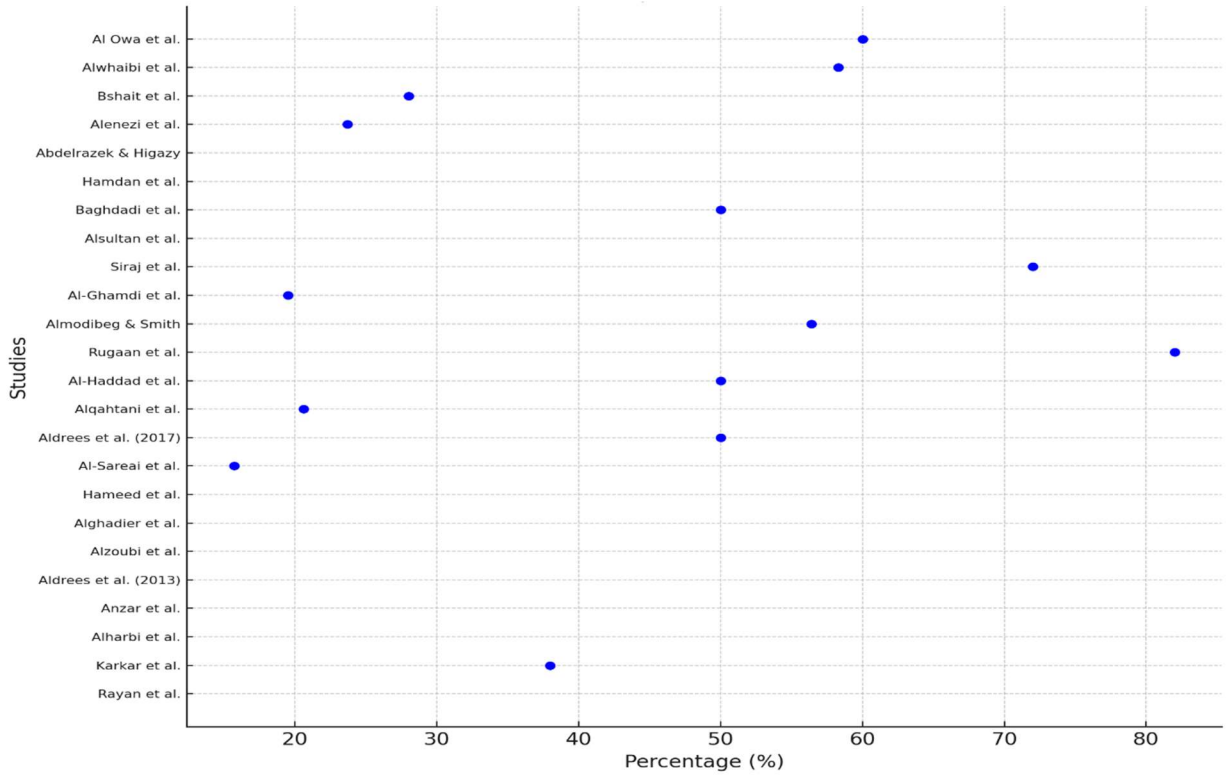

Figure 3: Depersonalization by study

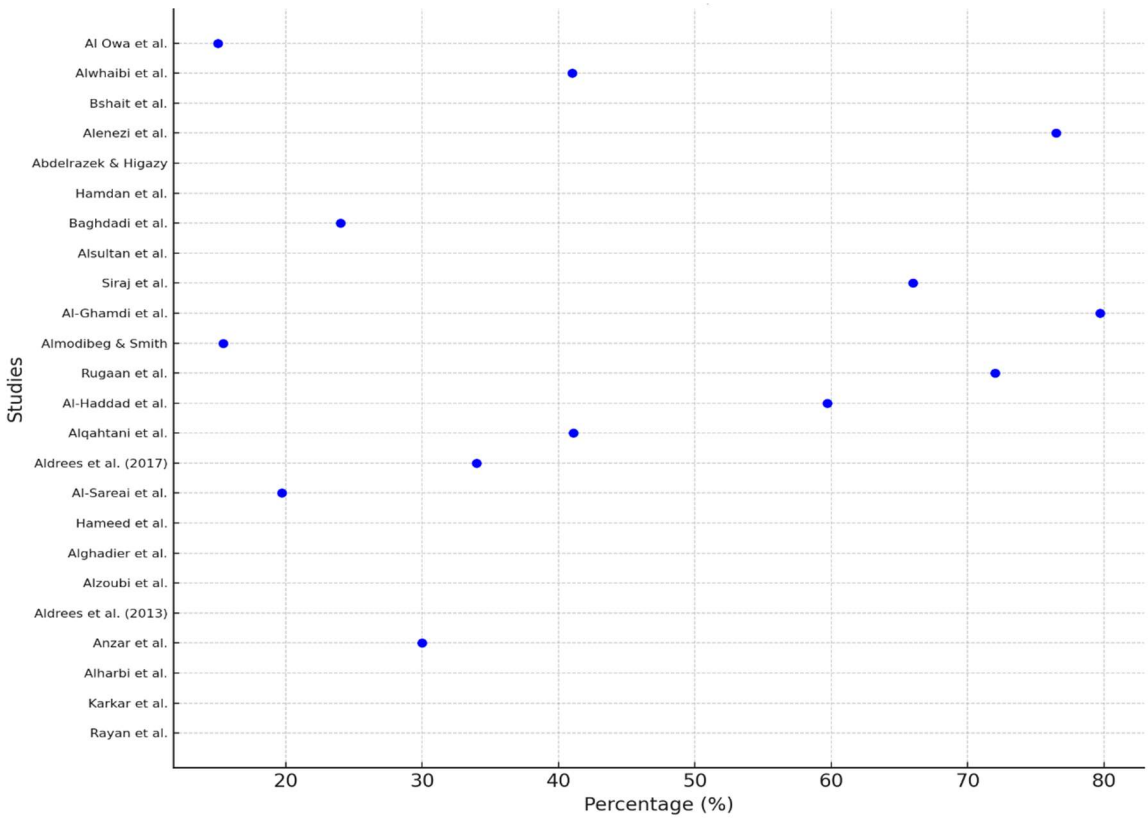

Figure 4: Personal Achievement by study

Figure 5 illustrating burnout subscales (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) by specialty provides a clear comparison across various healthcare professions. It highlights significant differences in the levels of burnout experienced by different specialties. Emotional Exhaustion (EE) was notably high in specialties such as nurses (87.2%) and emergency physicians (88.7%), reflecting the intense emotional demands and high workloads typical in these roles. Depersonalization (DP) also peaked in specialties like ICU workers (82%) and perioperative nurses (56.4%), indicating a tendency towards emotional detachment from patients in high-pressure environments. Conversely, Personal Accomplishment (PA) levels were generally lower in roles with higher burnout, such as oncology workers (72%) and dialysis nurses (42%), where the emotional strain appeared to diminish feelings of professional satisfaction. This comparison underscores the varying burnout experiences across healthcare settings and highlights the need for targeted interventions based on the specific challenges faced in each specialty.

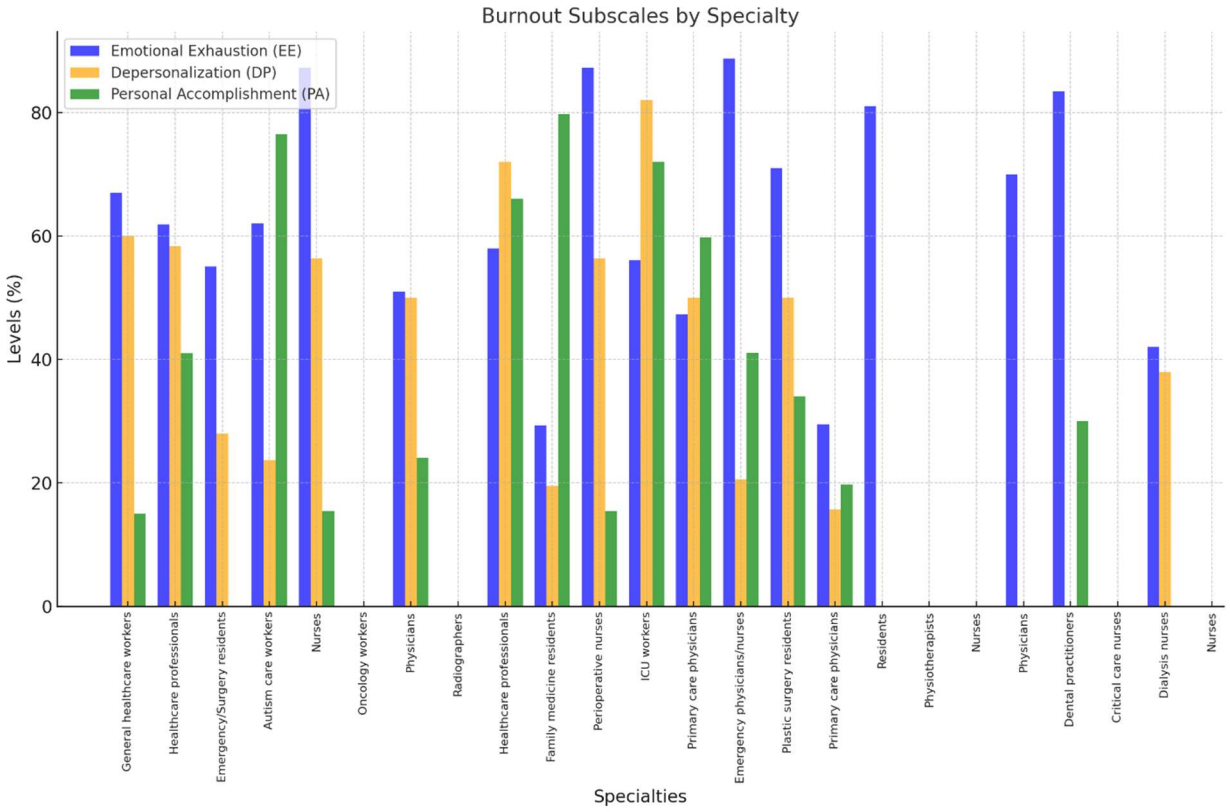

Figure 5: Burnout levels by specialty

Quality assessment

The quality assessment of the included studies in this systematic review was performed using the Newcastle Ottawa Scale (NOS), which evaluates studies based on three primary categories: selection, comparability, and outcome. In terms of selection, the majority of the studies were awarded 3 stars (★★★★) or 2 stars (★★), indicating that most studies effectively met the criteria for the selection of participants. However, several studies, such as Al-Sareai et al. [31] and Aldrees et al. [30], received only 1 star (★), suggesting limitations in participant selection or representativeness. The comparability category showed a general trend of low ratings, with most studies receiving 1 star (★), signifying that adjustments for confounding variables or baseline comparability across groups were not always adequately addressed. A few studies, like Alzoubi et al. [34] and Karkar et al. [38], received 2 stars (★★), indicating better handling of potential confounding factors.

Regarding outcome assessment, most studies received ratings of 3 stars (★★★), indicating a relatively strong assessment of outcomes, particularly burnout and psychological health metrics such as depression and anxiety. However, some studies, including Abdelrazek & Higazy [20], received 0 stars (-), indicating the lack of clear or adequate outcome measurements. Overall, while most studies were of moderate quality, there were notable gaps in addressing comparability and the quality of outcome measurements. This variability in study quality highlights the need for more robust methodologies in future research on burnout and psychological health among healthcare workers in Saudi Arabia.

Discussion

The findings of this systematic review underscore the pervasive nature of burnout across various healthcare specialties, with emergency physicians and nurses consistently experiencing the highest levels of burnout, particularly in the

dimensions of Emotional Exhaustion (EE) and Depersonalization (DP). These specialties are frequently exposed to high-stress environments, long working hours, and intense patient interactions, all of which contribute to elevated burnout levels. The high EE levels in these roles suggest that workers are emotionally drained, while the elevated DP levels indicate a sense of emotional detachment from their work and patients. The low Personal Accomplishment (PA) reported in these specialties highlights the diminishing sense of professional fulfillment as burnout intensifies. These findings are consistent with existing literature, which has highlighted how critical care environments, emergency settings, and nursing roles often involve prolonged exposure to stress, trauma, and compassion fatigue, leading to a reduced sense of accomplishment and satisfaction.

However, there were notable differences across specialties, with some fields such as oncology workers and dialysis nurses showing moderate to high burnout levels but comparatively higher Personal Accomplishment (PA). This suggests that while burnout is prevalent, healthcare professionals in these fields may derive meaning and satisfaction from their work despite the emotional toll. The low PA in roles such as perioperative nurses and ICU workers reflects the negative impact of burnout on job satisfaction, which may be compounded by factors such as heavy workloads, lack of resources, and organizational support. These results emphasize the importance of addressing burnout through targeted interventions, such as improving work-life balance, providing mental health resources, and offering better organizational support. Tailored strategies that focus on the unique challenges of each specialty can help mitigate burnout and improve overall healthcare worker well-being and patient care outcomes.

A systematic review performed in the settings of middle east in which authors found 138 papers that fit the criteria. Medical students (N=7), nurses (N=55), doctors (N=22), and other healthcare professionals (N=22) in the Middle East were the subjects of burnout studies. For the purpose of measuring burnout, the Maslach Burnout Inventory was the instrument most often used. Estimates of the prevalence of burnout among healthcare workers often fall between 40% and 60%. This includes doctors, nurses, and other medical staff. Characteristics of the workplace, exposure to terror and violence, mental discomfort, and a lack of social support are all factors that contribute to healthcare practitioners' burnout in the Middle East [40].

A weakened feeling of personal accomplishment, emotional weariness, and depersonalization are symptoms of burnout [41]. There is mounting evidence that healthcare workers are at a higher risk of burnout than the general population [42, 43, 44], and the incidence of burnout among healthcare workers has been steadily increasing over the last several years [45]. With as many as 78% of doctors reporting burnout on occasion or another, experts in the US have lately declared this a public health emergency [46]. Medical students, residents, and nurses all experience significant rates of burnout, with prevalence estimates of up to 44.2%, 45.0%, and 50%, respectively, according to studies [47, 48, 49]. Similarly high rates of burnout have been seen among healthcare professionals in other high-income nations [50, 51, 52].

Mood swings, melancholy, anxiety, impatience, and other symptoms may manifest in healthcare professionals who are suffering burnout [53, 54, 55, 56, 57]. Additionally, burnout may lead to physical health problems such as gastrointestinal distress, cardiovascular risks, and a host of other aches and pains [58, 59, 60, 61]. Research also shows that doctors who are burned out are more likely to be unhappy in their jobs and perhaps consider quitting medicine altogether [62]. Lastly, burnout is an issue since it affects the provider, their patients, and the healthcare system as a whole, and it costs a lot of money. Good health for providers is associated with high-quality treatment and positive patient outcomes [63]. In addition, healthcare service waitlists and subpar public healthcare delivery may ensue as a consequence of diminished healthcare resources caused by burnout-related productivity loss. At least $160 million in lost patient treatment is what one estimate puts the cost of physician layoffs and early retirements at [64].

Review studies on healthcare worker burnout in developed and/or westernized nations from North America, Europe, and Australasia are plentiful [65, 66, 67, 68, 69, 70], but reviews on burnout in developing and non-Western countries, particularly those in the Middle East, are uncommon. Thus, this systematic review comes to close this literature gap as Saudi Arabia is one of the Middle East countries.

Conclusion

The results of this systematic review reveal that emergency physicians and nurses are among the specialties that experience the highest levels of burnout across all three dimensions of the burnout scale—Emotional Exhaustion (EE),

Depersonalization (DP), and Personal Accomplishment (PA). These roles consistently showed high emotional exhaustion and depersonalization, accompanied by lower levels of personal accomplishment, indicating the severe emotional and psychological toll these professions take on healthcare workers. The intense work environment, high patient volume, and emotional demands are likely contributing factors to these elevated burnout levels.

Moreover, specialties such as ICU workers, perioperative nurses, and oncology professionals also displayed significant burnout levels, particularly in emotional exhaustion and depersonalization. The findings emphasize the crucial need for targeted interventions in these high-risk specialties, including improving workplace conditions, providing mental health support, and fostering a work-life balance. While some specialties reported higher personal accomplishment, indicating a sense of fulfillment despite burnout, it is clear that overall, burnout remains a pressing issue in healthcare settings. Comprehensive strategies tailored to specific roles are essential to reduce burnout and ensure the well-being of healthcare workers, ultimately enhancing patient care quality.

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