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Research Article

# Measurement of Experienced Burnout among Health Care Professionals in Saudi Hospitals: A Cross-Sectional Study in Riyadh

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## Abstract

**Objectives:** To measure the prevalence and causes of burnout among Health Care Professionals (HCPs) in four hospitals in Saudi Arabia.

**Methodology:** We used the Maslach Burnout Inventory-Human Services Survey (MBI-HSS). It assesses the four components of burnout; Emotional Execution (EE), Depersonalization (DP), low Personal Accomplishment (PA) and involvement. The total score was calculated by method 1 in Maslach Burnout inventory, 4th edition for medicine subgroup.

**Results:** The main findings of this study show that doctors and nurses have the highest risk of experiencing burnout and that burnout more prevalent among those who work in emergency care and inpatient wards. Saudi and married physicians scored higher burnout while young and inexperienced nurses were more inclined to report emotional execution and low involvement in the work. Also, the study showed that physicians and men were not able to practice adaptive stress-coping strategies.

**Conclusion:** the study emphasized the importance of work environment factors and suggested that the lack of involvement in work is an alarming predictor of burnout in public hospitals. Hospitals management should consider reducing demanding tasks and increasing rewards with a coaching leadership style, including instructional and emotional support.

### Advances in Knowledge

- This study demonstrated burnout factors and emphasized the importance of work environment factors and suggested that the lack of involvement in work is an essential predictor of burnout in public hospitals.
- Young and inexperienced Saudi nurses, expatriate nurses with unmet cultural competence, and heavy work loaded physicians might explain the high burnout rates in public hospitals in Saudi.
- Future research should focus on elucidating the organizations that are associated with burnout in HCP to find national occupational norms in each working set.

### Application to Patient Care

- The work area was a recurrent factor in increasing burnout symptoms, precisely, emotional exhaustion and personalization among HCPs in public hospitals.
- Burnout occurred more often in the inpatient wards, the emergency departments and ICU which might require redesigning daily jobs, and rotating functions in those area
- Teaching HCPs how to adopted effective stress coping strategies in the workplace will improve quality of care.

## Introduction

Burnout is a work-related hazard for health professionals that continues to endure international research interest as a new occupational disease in the health sector. Burnout has undesirable implications, not only for the well-being of the caregiving staff but also for the patient, by impairing the quality of healthcare delivery [1-3]. Burnout is a mental disorder that produced form the failure of coping strategies that individuals usually use to manage work stress, which results from extended exposure to psychological factors [3]. Healthcare professionals spend the majority of their day dealing with patients and families. They deal with physical issues, of course, but their concern extends to social and psychological problems as well. The level of stress in this daily interaction can lead to feelings of anger, embarrassment, and thoughts of abandoning their career in healthcare [4]. This chronic, emotionally draining stress poses the risk of burnout.

The term burnout was first introduced by Frendenberger [5] to define overload symptoms that he witnessed among volunteers treating drug addiction patients [3,5-7]. In the Maslach Burnout Inventory (MBI), burnout is as a psychological condition of Emotional Exhaustion (EE), Depersonalization (DP), and low Personal Accomplishment (PA). It cultivates in people who have a professional connection with other people [8].

EE measures feelings of being emotionally strained and drained by one's work, having physical fatigue and feeling psychologically and emotionally "Exhausted." The DP subscale measures a sense of unsympathetic and impersonal response toward receivers of one's care or service, like cynical reactions towards the patient or believing that patients deserve their troubles [9]. For both subscales, higher mean scores resemble higher degrees of experienced burnout. The low Personal Accomplishment (PA) subscale reflects a healthcare worker tendency to feel negative about themselves-unhappy and disappointed in their accomplishments. Differently, then the other two previously mentioned subscales, previous studies showed that a lower mean score in the PA subscale resembles higher degrees of experienced burnout [8].

The costs of burnout are hypothetically severe for staff, patients, and healthcare systems. Since the 80's decade, studies associated episodes of burnout with indices of personal suffering, which also includes physical exhaustion, insomnia, increasing in the marital and family problems, and even an increase in the use of alcohol and other drugs [10]. Several researchers have associated burnout with some behavioral signs including medical errors, low morale, absenteeism, sick leaves, premature retirement, alcohol abuse and increasing negative workplace behaviors such as smoking, excessive coffee consumption, and workplace accidents [3,11].

Working long hours, job dissatisfaction, autonomy losses, and weak administrative bureaucracy [12-14], and work-life balance are triggers of burnout in health workers [15]. Associations between burnout prevalence and sociodemographic factors such as young age, female gender, negative marital status, fewer years in practice vary between studies. Thus, variation among countries in estimated burnout is predictable because of exhaustion arising from the work situation and environmental factors influenced by personal variables.

Strategies to reduce the risk of burnout are of three levels: modifying the organizational structure and work mechanisms, improving professional Development programs for better adaptation to the work environment, and individual-level actions to decrease stress through active coping, and endorsing healthy behavior [12,16].

There are few studies so far that have examined the prevalence of burnout in the Saudi context and its underlying factors. Health care delivery in Saudi has mixed nationalities of caregivers who have different beliefs, values, and pattern of behaviors. This cultural diversity in such system may hinder effective intercultural communication either between provider-provider communication and provider-patient communication. Several international reports have noted the importance of cultural competency in helping patients in the healing process, and in reducing healthcare provider stress [17-19].

In our study, we sought to understand the risk of burnout disorder among Healthcare Professionals (HCP) in four hospitals in Saudi Arabia. Where, the system has witnessed insufficient medical and nursing personnel, equipment, supplies, benefits cut, frequent overtime required, and the reduction in workforce. We measured it using the Maslach Burnout Inventory [10]. The scale assesses various aspects of the burnout disorder with four subscales: emotional exhaustion, depersonalization, personal accomplishment, and involvement [20-24]. The study aims to identify the individual factors associated with burnout in HCPs, namely: demographic characteristics regarding gender, nationality, work characteristics concerning job type and workplace and maladaptive coping styles. Furthermore, because of the negative influence of burnout on health care and medical staff, in particular on the provider-patient relationship, we also sought to identify any potential targets for preventive strategies in Saudi hospitals considering personal, social and situational variables. The study results should encourage hospitals managers to implement effective measures to eliminate burnout among healthcare professionals and maintain a sufficient level of trained workers and improve health care delivery.

## Methodology

This cross-sectional study was conducted at four large hospitals in Riyadh, the capital of Saudi Arabia: King Khalid University Hospital (800 beds), Alyamamah Hospital (320 beds), Prince

Mohammed Bin Abdul-Aziz Hospital (500 beds), and National Guard Hospital (690 beds). The target population was the staff of these hospitals. The survey took 10-15 minutes to complete. Two well-trained data collectors visited the hospitals and left the questionnaires in sealed envelopes in medical departments and clinical areas. The collectors returned after one and two weeks to collect completed questionnaires, and there was a follow-up email through the department secretary. Data collection was from March to May 2017.

The Maslach Burnout Inventory (MBI) is a commonly accepted instrument to measure burnout syndrome in health care professionals (MBI-HSS). It has three subscales; (I) EE has nine items (range, 0-54), (II) PA has eight items (range 0-48), (III) DP (dealing with people as objects) has five items (range 0-30). The EE domain encloses nine scopes measuring and job enthusiasm and reduced energy emotional and cognitive separation from the job. DP consists of five items measuring cynicism, lack of engagement, and distancing from the patients or treatment of patients as inanimate, unfeeling objects. Lastly, PA is operationalized along with eight scopes measuring awareness of competence and achievement at work; influence on other people; working well with others, and dealing with problems [25]. A combination of high scores for frequency on EE and DP and low scores on PA with high scores on intensity for each subscale corresponds to a high level of burnout. The subscale scores are considered low, moderate, or high according to predetermined cutoff scores based on normative data for different occupations [26]. There is no total burnout score. As specified in the MBI 3rd edition, we used these categorizations, which have been determined specifically for medical professionals:

EE: ≥27 =high burnout, 19-26 =moderate burnout, 0-18 =low burnout

DP: ≥13= high burnout, 7-12=moderate burnout, 0-6 = low burnout

PA: ≦33 =high burnout, 39-34 =moderate burnout, ≥ 40 low burnout

An optional subscale, (IV) involvement (3 items), assesses involvement with people and is related to EE [10]. Previous research considered engagement as the opposite of burnout, by defining it in terms of the same dimensions as burnout. However, engagement represents the positive side of these dimensions, whereas the exhaustion would represent the negative. Based on that perspective, participation is a high energy state with substantial involvement and a sense of efficacy [27]. Involvement dimension was suggested from Maslach as an optional scale in the inventory. It represents a positive affective-motivational state of occupational fulfillment [13].

Previous studies identified that maladaptive coping strategies are amenable to burnout. Therefore, another section was added by the researcher (AA) to assess coping strategies on burnout levels in HCWs. Coping (preventive) strategies are examined in 6 items (mediation, aerobic, doing something for fun, listen to body massage, sleeping well, and say no to extra demands. Each question is answered on a 7-point Likert scale range from o (never) to daily (6) by frequency. Responses at the 'Never' end of the scale (0) are indicative of maladaptive coping while responses at the other end are indicative of adaptive coping.

Participation was voluntary and anonymous, and recruitment was through advertisements. The aim of the study was explained in writing, and the participant was assured that data was anonymous and would be kept confidential. The participant signed the questionnaire to acknowledge having received informed consent. The survey was offered as an assessment of job-related attitudes and not linked to burnout to avoid any sensitization to a general impression of burnout.

Our study was conducted following the acceptable research standards, which also included the obtaining of informed consent. Moreover, all procedures aimed to ensure both confidentiality and privacy of all participants. Ethical approval was attained from King Saud University, medical college, Institutional review board.

The demographic data collected included nationality, gender, age, marital status, education, work experience, job category (physician, nurse, and auxiliary workers), workplace (inpatient wards, outpatient clinics, emergency department, intensive care units, and various other workplaces such as the rehabilitation department, clinical laboratories, and clinical nutrition), and work duties. The questionnaire also asked whether the participant had any previous training in dealing with workplace burnout.

**Statistical Analysis**

Data were analyzed using IBM SPSS Statistics version 22 (IBM Corp., Armonk, NY, USA), and R version 3.4.3 (R Foundation Statistical Computing, Vienna, Austria). Continuous variables are expressed as mean and standard deviation, and categorical variables are expressed as percentages. For each MBI subscale, total scores were calculated by Method 1 in Maslach Burnout Inventory, 4th edition. MBI scores were categorized according to Table I in the Maslach Burnout Inventory, 3rd Edition, for the medicine subgroup. The correlation was done using the Spearman rank correlation test. The RMS package for the statistical computing language R was used for multiple logistic regression for each subscale for physicians and nurses. The study used Cronbach's alpha test of the items in the questionnaire, and any statistical analysis with a p-value smaller than 0.05 was considered a statistically significant result.

**Results**

Of 223 staff in the hospitals, 170 completed the question-

naire corresponding to a response rate of 76.2%. The demographic characteristics of those participants are shown in Table 1. The majority of participants were female (72.9%). Most (50.6%) were 30-39 years old, followed by 17-29 years (37.1%). The fewest were in the age group 50-59 years (1.8%), and none were older. More than half (57.6%) were married. Almost half (49.4%) were non-Saudi. About half (48.8%) had completed college at the baccalaureate level, and many had a postgraduate education (44.4%). Work experience ranged from 5-9 years (41.8%) less than five years (37.6%) and more than ten years (20.6%). The most significant percentage (46.5%) were nurses, followed by physicians (28.2%), and ancillary services (25.3%). The majority of the participants (87.1%) spent all or most of their duty time in direct contact with patients. Less than half spent significant time teaching and training other staff or in administrative work. Most (40.0%) worked in out patient's clinics, followed by inpatient wards (28.8%); the fewest (5.9%) worked in intensive care. The majority (65.9%) had received no training in dealing with work stress or burnout.

| Demographic characteristics | Factor | Number | % |
|---|---|---|---|
| **Gender** | Male | 46 | 27.1 |
| | Female | 124 | 72.9 |
| **Age (years)** | 17-29 | 63 | 37.1 |
| | 30-39 | 86 | 50.6 |
| | 40-49 | 18 | 10.6 |
| | 50-59 | 3 | 1.8 |
| | > 59 | 0 | 0.0 |
| **Marital status** | Single | 63 | 37.1 |
| | Married | 98 | 57.6 |
| | Divorced | 5 | 2.9 |
| | Other | 4 | 2.4 |
| **Nationality** | Saudi | 86 | 50.6 |
| | Non-Saudi | 84 | 49.4 |
| **Education** | No college | 4 | 2.4 |
| | Some college | 7 | 4.1 |
| | Completed college | 83 | 48.8 |
| | Postgraduate work | 76 | 44.7 |
| **Work experience (years)** | < 5 | 64 | 37.6 |
| | 9-May | 71 | 41.8 |
| | ≥10 | 35 | 20.6 |
| **Job categorization** | Physicians | 48 | 28.2 |
| | Nurses | 79 | 46.5 |
| | Ancillary services | 43 | 25.3 |
| **Work duties** | | | |
| **Direct patient contact** | All or most | 148 | 87.1 |
| | Sometimes | 17 | 10.0 |
| | Less time | 5 | 2.9 |
| **Teaching and training (other staff)*** | All or most | 36 | 21.2 |
| | Sometimes | 43 | 25.3 |
| | Less time | 13 | 7.6 |
| **Administration*** | All or most | 23 | 13.5 |
| | Sometimes | 28 | 16.5 |
| | Less time | 42 | 24.7 |

| | | | |
|---|---|---|---|
| **Workplace** | In patient wards | 49 | 28.8 |
| | Outpatient clinics | 68 | 40.0 |
| | Emergency department | 14 | 8.2 |
| | Intensive Care Units | 10 | 5.9 |
| | Other (specify) | 29 | 17.1 |
| Previous training in handling work stress or burnout | Yes | 58 | 34.1 |
| | No | 112 | 65.9 |
| *Remaining percentage spent no time in these activities. | | | |

**Table 1:** Demographic characteristics of the respondents (hospital staff) from the four large hospitals in Riyadh, the capital of Saudi Arabia (n=170).

**MBI subscale scores**

One-third to one-half of physicians and nurses reported a high proportion of burnout on all subscales, but mean scores indicate that levels for all three scales were moderate for each job category (Table 2). Auxiliary workers also reported high levels on the subscales for EE and DP. Differences in mean scores for frequency by job category were not statistically significant by job category. For gender, the difference in the EE subscale was borderline significant and only in the involvement subscale was statistically significant, with men having a higher score than women (Table 3). The mean scores for DP indicate almost monthly DP, according to interpretations of these scores in the MBI. The PA scores are consistent with moderate-to-strong reductions in feelings of PA. In the comparison by workplace (Figure 1), high burnout symptoms occurred more frequent in inpatient wards; DP (72%), EE (56 0%), and low PA (50%) than in other workplaces. High burnout levels for EE (63%) and DP (50%) were more frequent in the emergency department, while high depersonalization (60%) and reduced PA (60%) were felted in intensive care units.

| Item | Physicians | | Nurses | | Ancillary services | | P value |
|---|---|---|---|---|---|---|---|
| Emotional Exhaustion (out of 54) | 26.4 | 12 | 26.6 | 12.0 | 23.6 | 10.5 | 0.438 |
| Depersonalization (out of 30) | 11 | 7.6 | 9.7 | 7.3 | 9.9 | 7.7 | 0.621 |
| Personal Accomplishment (out of 48) | 31.6 | 9.6 | 33.8 | 8.7 | 34.2 | 11.1 | 0.388 |
| Involvement (out of 18) | 7.8 | 4.4 | 7.6 | 4.5 | 6.6 | 3.9 | 0.398 |
| Prevention(coping) strategies (out of 36) | 15.5 | 8.9 | 17.8 | 8.9 | 18.7 | 6.6 | 0.17 |
| Mean (standard deviation) | | | | | | | |

**Table 2:** MBI subscale scores according to job category of the staff from the four largest hospitals in Riyadh, the capital of Saudi Arabia.

| Item | Male | | Female | | P value |
|---|---|---|---|---|---|
| Emotional Exhaustion (out of 54) | 28.7 | 12.6 | 24.6 | 11.2 | 0.05 |
| Depersonalization (out of 30) | 11.4 | 8.7 | 9.7 | 6.9 | 0.194 |
| Personal Accomplishment (out of 48) | 30.9 | 10.1 | 34.1 | 9.3 | 0.065 |
| Involvement (out of 18) | 8.7 | 4.8 | 6.9 | 4.0 | 0.027 |
| Prevention strategies (out of 42) | 16.9 | 8.7 | 17.5 | 8.3 | 0.646 |
| Mean (standard deviation) | | | | | |

**Table 3:** MBI subscale scores according to gender of the staff from the four largest hospitals in Riyadh, the capital of Saudi Arabia.

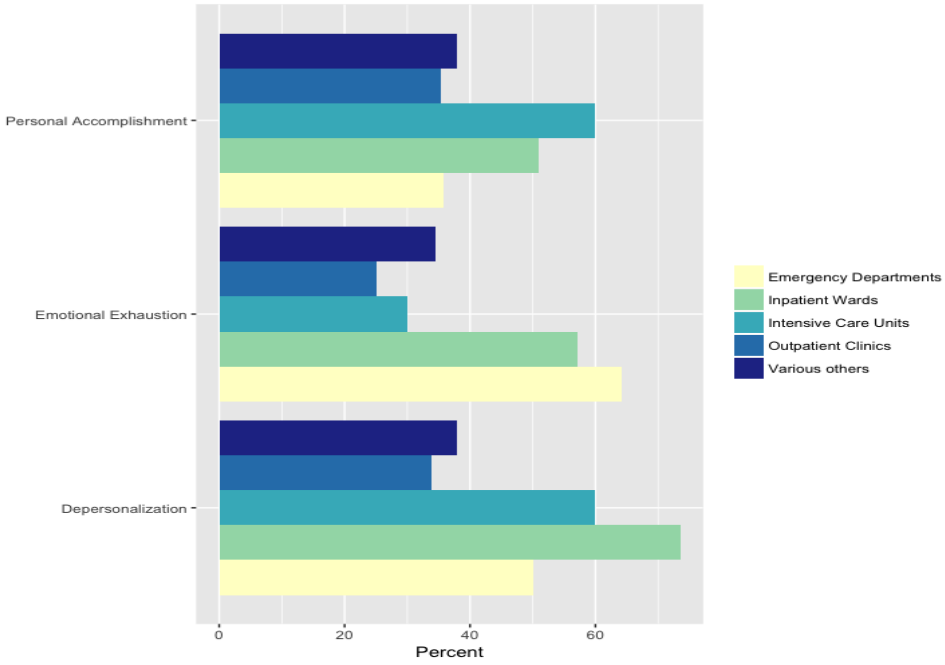


**Figure 1:** MBI subscale scores for high level of burnout by workplace.

The total means score on the coping strategy subscale was 17.33 out of 42, meaning that participants used preventative strategies between a few times a year and monthly with an intensity of "Moderate" to "Very strong." The health professionals use coping strategies that are hypothetically adaptive, such as "Saying no to excessive demands, listening to body massages, and doing aerobics more frequently. The least commonly used strategies were reflection and meditation and doing something for fun (Table 4). Also, physicians were less often using adaptive coping strategies.

| Item | Mean (SD) |
|---|---|
| 1. I have time out for myself to think, reflect, mediate and part | 2.9 (1.7) |
| 2. I do some aerobic for at least half an hour minimum twice a week. | 2.0 (2.0) |
| 3. I do something for fun or enjoyment such as playing Games, visiting movie, concert. | 2.8 (2.0) |
| 4. I listen to my body messages (symptoms, illness). | 3.1 (1.9) |
| 5. I sleep will (8-9 hours per night) | 3.5 (1.9) |
| 6. I am able to say "No !" to inappropriate or excessive demands on you | 3.1 (2.0) |

**Table 4:** Summary statistics for prevention strategy questions as answered by the staff from the four largest hospitals in Riyadh, the capital of Saudi Arabia.

The overall mean scores for genders were similar in our study. The involvement was the only subscale with a statistically significant difference, while there was a borderline significant difference for EE. On the other hand, females had slightly higher total mean scores in the low PA and coping strategies subscales compared to males. However, such differences were not statistically significant.

In multiple logistic regression, the variables that were statistically significant for predicting a high burnout score for physicians and nurses are shown in Table 5. Our results revealed that differences in nationality increased the chance of developing emotional exhaustion for physicians ($\beta = 2.42$, $p=0.05$), whereas the differences marital status led to an increase in a perceived low personal accomplishment for physicians ($\beta = 2.67$, $p=0.01$). Beyond that, when we evaluated the emotional exhaustion for nurses, we found that differences in sex ($\beta = -3.58$, $p<0.01$) and workplace ($\beta$

= -0.63, p=0.04) reduce the likelihood of developing burnout. However, the higher the years of work experience, the more likely nurses are to develop emotional exhaustion (β = 1.56, p=0.01). Regarding the depersonalization of nurses, we report that the higher the education, the more likely a nurse is to develop depersonalization (β = 1.67, p<0.01), whereas the differences in the workplace reduce the likelihood of developing depersonalization (β = 0.62, p=0.02). Finally, our analysis also showed that nurses personal accomplishment depended significantly to their education level (β = 1.15, p=0.04).

| Independent variable | Coefficient (ß) | Standard error | Wald Z | P value | R2 |
|---|---|---|---|---|---|
| **Emotional exhaustion for physicians** | | | | | |
| Nationality | 2.4236 | 1.2422 | 1.95 | 0.0510 | 0.280 |
| **Personal accomplishment for physicians** | | | | | |
| Marital status | 2.6797 | 1.0721 | 2.50 | 0.0124 | 0.315 |
| **Emotional exhaustion for nurses** | | | | | |
| Sex | -3.5793 | 1.2323 | -2.90 | 0.0037 | 0.449 |
| Length of work experience | 1.5589 | 0.6349 | 2.46 | 0.0141 | |
| Workplace | -0.6308 | 0.3032 | -2.08 | 0.0375 | |
| **Depersonalization for nurses** | | | | | |
| Education | 1.6672 | 0.5916 | 2.82 | 0.0048 | 0.296 |
| Workplace | -0.6157 | 0.2739 | -2.25 | 0.0246 | |
| **Personal accomplishment for nurses** | | | | | |
| Education | 1.1461 | 0.5555 | 2.06 | 0.0391 | 0.150 |
| Independent variables in model: nationality, sex, age, marital status, education, length of work experience, workplace, training in handling burnout. | | | | | |

**Table 5:** Statistical significant regression coefficients from each Maslach subscales for physicians and nurses work in the four largest hospitals in Riyadh, the capital of Saudi Arabia.

Cronbach's alpha showed a very good (0.88) reliability for all items of the five subscales in regards to frequency and excellent reliability (0.91) for intensity.

## Discussion

This study evaluated the existence of burnout in HCPs working in Saudi Hospitals and its characteristics. Our research is the first conducted in Arab countries that analyzed a combination of burnout issues; the four main MBS scales, including the involvement scale with coping strategies. These factors provided the best indicators of burnout in health professionals. We also studied burnout among different job categories, whereas other studies focused only on one group, e.g., all nurses or all doctors. Furthermore, we presented data on each subscale of burnout and each job category. Essential limitations in our study must be considered when interpreting and generalizing the study results and when planning further research. In particular, the results of gender influences should take into account that most participants were women, which may not fully represent the opinions of men. Further research should use more suited techniques to directly eliciting views from men.

Overall, our study found high levels of burnout symptoms (35% to 50%) with an intensity of moderate to strong. Studies from Saudi Arabia and other countries in the region show varying ranges in the frequency of burnout symptoms, but most estimates, as reported in a systematic review in 2017, are moderate-to-high [28]. Our study showed that female gender, work experience, education level, and workplace were the contributing factors in developing burnout in hospitals. This finding goes in line with results from a systematic review study included 19 studies from Bahrain, Egypt, Jordan, Lebanon, Palestine, and Yemen

Our study indicated a high level of EE in physicians (37) % and nurses (50%), results that are comparable to previous global and local studies. A local study among nursing staff in a tertiary hospital in AL Khobar city reported that the most of the nursing staff were in a state of burnout with a high frequency of EE (45%) and DP (42%) [21]. Moreover, our study revealed that physicians and nurses represented the most significant proportions of high

burnout. The vast majority of physicians reported burnout with a high frequency of DP (51%) and reduced PA (50 %) and EE (37%), While the majority of nurses were in a state of burnout with a higher frequency of EE (50%) and DP (46 %, and reduced PA (42%). In comparison to auxiliary staff, severe burnout occurred for DP (49%), EE execution (30%) and reduced PA (18%). This finding coincides with previous reports, showing that doctors and nurses have the highest risk of experiencing burnout [15] and that burnout is more predominant among those who work long hours and work in shifts [29]. Previous local studies highlighted that Saudi resident physicians scored high burnout scores because of increased workload, responsibilities, and sleep loss. The junior doctors in local public hospitals might work more than 48 hours weekly, and this was a source of stress [30].

European communities reported that 12% of participants suffered from burnout in all three dimensions, 43% scored high for EE, 35% for depersonalization, and 32% for low PA [12]. Another study in Germany demonstrated that 34.1% (n = 73) of general practitioners scored high for EE [31]. In another study in Europe, a lower level of EE among physicians in the USA as compared with other countries was related to secure systems of quality, safety and autonomy culture, and career development opportunities. EE increases when they face work-life conflict if they use ineffective coping [32]. Our findings suggested that EE increased if the professional is a foreigner, whereas PA decreases if they are married.

In our study, monthly DP showed intensity from moderate to high among all HCPs, resulting in a lack of feeling and impersonal responses to recipients of services. Previous studies showed that DP is linked more to the job environment and specifically to job dissatisfaction. The lack of social relationships at work and the poor of critical resources that lead to job dissatisfaction and reduced job performance [13]. Individual satisfaction occurs when HCPs feel supported by management and appreciated by patients [27].

**Burnout and Female Gender**

In this study, 72.9% were females, and 46.55 were nurses. Women reported significantly lower score in work involvement as compared to men. Also, EE was higher among females, and this was borderline significant. These differences might be explained by the lack of female nurses' experience and education. In our study, 37% of the nurse was inexperienced and young. Another local study reported that female Saudi nurses were more dissatisfied with their jobs than male nurses. Notably, the nurses who had worked in public hospitals for a period of 4–10 years without getting opportunities to advance [33]. Another local study conducted on nurses working in Saudi hospitals showed low work satisfaction that affected job performance and organizational commitment [34]. The research identified a clear link between a lack of control and burnout. Employees who cannot influence work decisions, or lack autonomy, and access to job resources, are more likely not to be engaged in their work. These results become even more important for nurses because their employment status and gender affect emotional exhaustion and personal achievement [35]. Our analysis supports this view by demonstrating that emotional exhaustion for nurses reduces for male nurses and increases with the years of work experience.

**Workplace (working conditions) and Burnout**

Coinciding with literature, we reported that the prevalence of burnout depends on where the staff work. Our study found that high frequency of burnout levels for DP (ranged from 72% to 50%) and EE (63% to56%) occurred more often in the inpatient wards and the emergency departments and ICU than in other workplaces. High burnout levels for reduced PA were most high in intensive care units and inpatients, 60% and 50 % respectively. Some studies have indicated that demanding patients, which are more common in departments such as the ICU and ER, increase EE [32], and decrease PA [36].

**Burnout and Coping Strategies**

Studies have shown that a self-assured coping strategy was a significant predictor of personal accomplishment. Doctors that experience burnouts have more chances to use maladaptive coping mechanisms [37,38]. Our study showed that stress coping strategies play a crucial role in predicting burnout of HCPs [25]. The study showed that physicians and men were not able to practice adaptive stress-coping strategies Hospitals management should provide sufficient opportunities for job training education or mindfulness courses.

## Conclusion

This study emphasized that engagement in work is an essential predictor of burnout in public hospitals. Young and inexperienced Saudi nurses, expatriate nurses with limited cultural competency and heavy workload on physicians might explain the high burnout rates in this study. Maladaptive coping styles should be considered and strengthen relationships within the diverse groups and communities in the health care system. Future work should include larger samples and focus on assessing the dimensions that constitute work engagement.

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