Original Article

# Prevalence of burnout and its impact on self-reported patient care among primary health care physicians at King Abdul-Aziz Medical City in Riyadh region

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## Abstract

**Background:** Burnout is known worldwide as a work-related syndrome associated with physical illness and mental health problems. It has a significant impact on doctors' health and patient care. **Aim:** To assess the prevalence of burnout, its associated risk factors, and its impact on self-reported patient care among the doctors of the Family Medicine Department in King Abdul-Aziz Medical City (KAMC), Riyadh. **Method:** A cross-sectional study was conducted among 150 physicians. Data were collected using the 22-items Maslach Burnout Inventory (MBI) to measure emotional exhaustion, depersonalization, and personal achievement as well as questions about demographic factors, work characteristics, and impact of burnout on self-reported patient care. **Results:** A total of 150 physicians responded to the questionnaire. In terms of high burnout, 32 doctors (21.3%) had emotional exhaustion, 57 doctors (38%) had depersonalization, and 41 doctors (27.3%) scored low for personal achievement. Staff physicians had high emotional exhaustion (27.8%, $P = 0.028$), family medicine residents, however, reported higher depersonalization and low personal achievement (42.9%, 45.7%, $P = 0.675$, $P = 0.009$, respectively). Being a staff physician, military, with long years in practice, working more than 8 hours per day, and covering ER shifts were strongly associated with a high level of burnout. High-level burnout demonstrated a statistically significant impact on patient care with suboptimal performance among the doctors of this study. **Conclusion:** Burnout seems to be a common problem in family medicine doctors at KAMC. It was associated with personal and workload indicators affecting their self-reported patient care significantly.

**Keywords:** Burnout, family medicine, physicians, workload

## Introduction

Burnout is known worldwide as a work-related syndrome, which is a triad of emotional exhaustion, depersonalization, and lack of personal accomplishment.[1]

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The term 'burnout' was at first used to describe the gradual emotional depletion, loss of motivation, and reduced commitment. After three decades, burnout was redefined as a psychological syndrome when employees are exposed to a stressful working environment with high job demands and low resources.[2] Most of the affected individuals are unable to cope with stress at work, causing negative feelings and attitudes towards their environment, colleagues, and patients. They often feel unsatisfied with their work and accomplishments, which eventually affects the quality of patient care.[1]



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Burnout has significant outcomes such as depression, poor quality of work, low morale, absenteeism, and lots of job turnover.[3] It is associated with physical illness and mental health problems. It may lead to drug and alcohol abuse and deterioration in relationships with friends and families. Previous research also identifies burnout experienced by physicians at epidemic levels as a factor associated with both depression and suicide in physicians and physicians in training.[5] Also, burnout was associated with self-reported medical errors.[5] It has been found that sleep-related impairment in physicians was associated with increased level of burnout which eventually led to decreased professional fulfillment and increased self-reported clinically significant medical error.[6] Further evidence from a systematic review also supports that physician burnout is associated with an increased risk of patient safety incidents, poorer quality of care due to low professionalism, and reduced patient satisfaction.[7]

Burnout was presented as an important concept in the 1970s, and it focused on people's experience with work. From that time until now, burnout seems to address a common experience among people. It has inspired practitioners to find out ways to cope with it and prevent it. Thus, from the beginning, burnout was recognized by both researchers and practitioners as a social problem worthy of attention and investigation.[7,8] It is associated with many risk factors such as age, years in practice, lack of adequate staff, difficult or demanding patients, inadequate clinical supervision, excess workload, covering shifts, having multiple tasks, conflicts with staff, and the presence of stressors related to private life.[9] It is unlikely to find a healthcare organization having high levels of burnout among their health professionals and achieving the optimal performance characteristics and patient satisfaction.[10]

Burnout is seen mostly in individuals with direct intensive contact with people, such as physicians.[11] Direct contact with patients requires extra effort and rapid response, and that's why the medical practice is stressful since any medical error or harm may cost a patient's life.[12] Physicians are not only facing medical problems, but they regularly encounter ethical dilemmas that need prompt decisions during the ongoing consultation, which puts them under more stress.[13] Family physicians, in particular, have more contact with a variety of patients at different age groups, and they need to be up-to-date, so they are under a lot of pressure to maintain competency. What makes it even more challenging is dealing with staffing issues, challenging patients, high workload, time limitations, proper documentation, and practice management.[14] A study observed that workers often felt emotionally exhausted with negative perceptions and feelings about their environment, which resulted in critical emotional stress affecting their work and quality of care.[8] Later on, the Maslach Burnout Inventory (MBI) developed a burnout questionnaire for human service organizations, which has been used extensively for the past 30 years.[3]

Many studies assessed the prevalence of burnout and its associated risk factors among health care workers, which was around (19% – 66%),[2,9,10,15-19] but only a few research studies focused on the impact of burnout on patient care.[20,21] One Study determined the prevalence of burnout among physicians practicing in Nigeria, and burnout prevalence was 75.5%, with the majority of the physicians (74.6%) perceiving that physician burnout could impact patient safety.[7]

Some researchers assessed the degree of burnout among resident doctors, while others assessed the prevalence of burnout among junior doctors, which was around 40% – 76%, and their burnout was associated with sub-optimal patient medical care.[20-22] One of these researches showed no difference between attending physicians and resident doctors regarding burnout rate.[21]

Residency training may cause a considerable degree of burnout due to issues related to patients' care, including misdiagnosis, diagnostic dilemmas, making a mistake in prescribing medication, complex treatment decision making, suboptimal patients care, and diminished patient satisfaction with treatment.[23] Residents are involved in the direct contact with the patients that makes them routinely challenged with high demands, work-home interference, and low autonomy, hence the burnout and its consequences.

Few studies in Saudi Arabia assessed the prevalence of burnout and its associated risk factors among physicians at different specialties, and it was around 69% – 88%.[17,25-28] Still, there is no evidence about the degree of burnout among family medicine doctors in particular and no evidence for the impact of burnout on their patient care. Therefore, this study was conducted to assess the impact of burnout on self-reported patient care, and compare the level of burnout among Family Medicine residents, Family Medicine consultants, and staff physicians. It was also aimed to assess the associated factors of burnout and compare the degree of burnout between different Family Medicine clinics at King Abdul-Aziz Medical City.

## Materials and Methods

This was a cross-sectional study conducted at seven family medicine clinics at King Abdul-Aziz Medical City in Riyadh from May 2016 to October 2016 (Health Care Specialty Center–HCSC-Khashm Al-Aan, National Guard Comprehensive Specialized Clinic–NGCSC-Um-Alhamam, King Saud City Housing – Dirab, King Abdulaziz City Housing-Iskan Yarmouk, King Khalid Military Academy Clinic (KKMA), King Khalid Military Academy Housing (KKAH), and Employee Health Clinic (EHC)). All Family Medicine physicians, including consultants, assistant/associate consultant, staff physician, and residents of the Family Medicine training program at King Abdul-Aziz Medical City in Riyadh, were invited to participate in the study with a total number of 226 doctors (187 physicians plus the 39 Family Medicine residents).

Besides the socio-demographic and academic information of the participants, the current study data were collected via a well-known and validated questionnaire, the Maslach Burnout Inventory (MBI),

which is a psychological assessment instrument comprising of 22 symptom items pertaining to occupational burnout. The MBI measures three dimensions of burnout: emotional exhaustion (EE) (9-items), depersonalization (DP) (5-items), and personal accomplishment (PA) (8-items). High scores on the EE, DP domains and a low score on the PA domain are indicative of burnout syndrome.[3] Besides, other questions were added to assess the impact of burnout on self-reported patient care using eight phrases. The first three were adapted from prior work that focused on the self-reported patient care among ER physicians[17] with some modifications. The physicians were asked to answer these statements of suboptimal care as never, rarely, frequently, or most of the time. The questionnaire was distributed to the targeted physicians by sending it to the secretaries of each center and by the researcher when it was needed to make sure the required number was covered.

The study was conducted after taking the ethical approval from King Abdullah International Medical Research Center (KAIMRC) Institutional Review Board (IRB). Participants were assured that collected data will be kept confidential, will not be disclosed for any reason, and will be used for research purposes only.

Data were analyzed using a statistical package for the social sciences version 20 software (SPSS, 20). Descriptive statistics were performed in the form of frequencies and percentages for categorical variables, while mean and standard deviation (SD) were used for the description of continuous variables. Analytic statistics were done using the Chi-square test ($\chi 2$) to assess differences between categorical variables. Statistical significance was set to 0.05 or less.

## Results

A total of 150 subjects participated in the current study with a mean (± SD) age of 40 (± 10.258) years. More than half of the subjects were females at 52%, aged <40 years at 56%, 85.3% were married, and 78.7% had children, as shown in Table 1. The highest percentage of the respondents was staff physicians (48%), and half (50%) of the respondents had been in practice for more than ten years. Most of the subjects were working for eight hours (74%) with a break time equal to or less than 30 minutes (60%). Half of the respondents were involved in multiple tasks other than their clinical work; most were members of a committee (47.8%), and some gave lectures (33.3%). Most of them covered more than five shifts per month (62.2%), and more than half of the participants had two to six months since they had their last vacation (54%).

The mean scores of the three subscales of MBI are shown in Table 2. The high mean scores of EE and DP with low scores of personal achievement indicated a high level of burnout. EE, DP, and PA were categorized into low, moderate, and high.

Based on MBI, high-level burnout was reported in the first subscale EE, where 21.3% showed high emotional exhaustion; in the second subscale DP, 38% showed high depersonalization; and in the third subscale PA, 27.3% showed a high reduction in personal achievement, as shown in Table 3.

There was a statistically significant difference between consultants and residents in the emotional exhaustion subscale (25.6% vs. 2.9%. $P = 0.028$). On the other hand, staff physicians had a higher rate of emotional exhaustion (27.8%). Residents, however, were more likely to report higher scores in the depersonalization subscale than both consultants and staff physicians (42.9%, 34.9%, and 37.5% respectively, $P = 0.675$). They also reported a sense of low personal achievement more than that of consultants and staff physicians (45.7%, 25.6%, and 19.4%, with a $P$ value = 0.009).

Respondents aged 40 years old and above had more emotional exhaustion (24.2%), but they were less depersonalized than

**Table 1: Participants' socio-demographic characteristics**

| Characteristics | *n* | Percentage |
|---|---|---|
| Age (mean±SD) | 40.3±10.258 | 56% |
| Gender | | |
| Male | 71 | 47.3% |
| Female | 79 | 52.7% |
| Marital Status | | |
| Married | 128 | 85.3% |
| Unmarried | 22 | 14.7% |
| Have children | | |
| Yes | 118 | 78.7% |
| No | 32 | 21.3% |
| Job title: | | |
| Consultants | 43 | 28.7% |
| Staff physicians | 72 | 48% |
| Family residents | 35 | 23.3% |
| Military | | |
| Yes | 11 | 7.3% |
| No | 139 | 92.7% |
| Years of practice | | |
| <5 years | 36 | 24% |
| 5-10 years | 39 | 26% |
| >10 years | 75 | 50% |

**Table 2: Average scores of subscales of the Maslach Burnout Inventory among Family Medicine doctors (*n*=150)**

| Burnout subscales | Mean | SD |
|---|---|---|
| Emotional Exhaustion | 19 | 12.02 |
| Depersonalization | 10.8 | 8.40 |
| Personal Achievement | 36.1 | 10.27 |

**Table 3: Prevalence of burnout based on each subscale of Maslach Burnout Inventory among Family Medicine doctors**

| | Low *n* (%) | Moderate *n* (%) | High *n* (%) |
|---|---|---|---|
| Burnout subscales | | | |
| Emotional Exhaustion | 82 (54) | 36 (24) | 32 (21.3) |
| Depersonalization | 45 (30) | 48 (32) | 57 (38) |
| Personal Achievement | 68 (45.3) | 41 (27.3) | 41 (27.3) |

younger respondents (34.8%). Female participants had more emotional exhaustion (24.1%) and depersonalization (39.2%) than males. However, the latter reported more sense of low personal achievement (32.4%). Married respondents reported high emotional exhaustion (23.4%), depersonalization (39.1%), and low personal achievement (28.1%) more than the non-married. Those who had children reported a high level of burnout in all the subscales more than the participants who did not have children (24.6%, 39.8%, 28%.). There was no statistically significant difference in age, gender, marital status, and having children. Military physicians reported statistically significant results with high emotional exhaustion (45.5%, $P = 0.04$) and more depersonalization with low personal achievement [Table 4].

The participants who had been in practice for more than ten years had high emotional exhaustion (30.7%, $P = 0.008$), while there was a high rate in reduction of personal achievement (67.7%, $P = 0.046$) and higher depersonalization in those in practice for less than five years (79.3%, $P = 0.253$). All participants working for more than eight hours a day reported high levels of emotional exhaustion (38.5%, $P = 0.003$) and more depersonalization (46.2%, $P = 0.091$). Similar results were seen in those covering more than five shifts per month as they reported high EE and DP (60%, $P = 0.033$, 80%, $P = 0.647$) with less personal achievement (20%, $P = 0.330$). A high level of emotional exhaustion and depersonalization were reported in those taking break times of less than 30 minutes (25.6%, $P = 0.247$, 42.2%, $P = 0.207$). There was not much difference between the participants who covered multiple tasks and those who had only their clinical work (*P*-value >0.355). The participants who worked overtime equal to or less than eight hours per week reported a high level of burnout in all subscales compared to those working more (*P*-value ≥0.05). The respondents who had their vacation more than six months ago reported a high rate of depersonalization (52.6%, $P = 0.388$) [Table 5].

Physicians, who acknowledged that they felt burnout, had high emotional exhaustion (39.2%, $P = 0.000$), high depersonalization (59.5%, $P = 0.000$), and a sense of low personal achievement (33.8, $P = 0.04$), as shown in Table 6. Furthermore, those who felt that burnout sometimes affected their patient care, had high emotional exhaustion (27.2% $P = 0.006$) and high depersonalization (44.7%, $P = 0.005$).

Participants with high burnout levels were more likely to report suboptimal care practices with statistically significant results in all eight domains and most of the three subscales of burnout [Table 7].

## Discussion

In this study, it was found that 21% of the physicians had high emotional exhaustion which is in agreement with a study on primary care practitioners in Switzerland where the EE score was 19%, while in France, it was 5% on the three subscales.[15,16] There was a high degree of depersonalization at a rate of 38%, which was similar to PHC doctors in a military hospital in Saudi Arabia.[17] It was even higher than general practitioners in the Middle East, where the score was 30%.[18]

The relation between age and high EE was identified in other studies, but the data were conflicting. A study done in Canada found that younger physicians had high EE.[14] Similar studies of PHC doctors in Yemen and European family doctors showed younger physicians had more burnout.[7,19]

In the present study, there was no significant relationship between age and high EE. Although, physicians younger than 40 years old had high DP and low PA, which could be due to lack of work experience, which makes them at risk of burnout at the beginning of their career.[12]

Depersonalization is a negative feeling with a dehumanized behavior towards patients.[17] This was seen more in Family Medicine residents of this study, maybe because of clinical duties, the presence of a lot of paperwork, monthly evaluation, involvement in many academic activities with workshops, presentations, journal clubs, busy with their research and

**Table 4: Association between personal characteristic factors and high-level burnout**

| | High-level Burnout | | |
|---|---|---|---|
| | **Emotional Exhaustion** | **Depersonalization** | **Sense of low Personal achievement** |
| Age | | | |
| <40 | 19% | 40.5% | 32.1% |
| Above than 40 | 24.2% (*P*=0.492) | 34.8% (*P*=0.512) | 21.2% (*P*=0.063) |
| Gender | | | |
| Male | 18.3% | 36.6% | 32.4% |
| Female | 24.1% (*P*=0.604) | 39.2% (*P*=0.899) | 22.8% (*P*=0.301) |
| Marital Status | | | |
| Married | 23.4% | 39.1% | 28.1% |
| Unmarried | 9.1% (*P*=0.278) | 31.8% (*P*=0.131) | 22.7% (*P*=0.583) |
| Number of Children | | | |
| No children | 9.4% | 31.2% | 25% |
| Have children | 24.6% (*P*=0.151) | 39.8% (*P*=0.123) | 28% (*P*=0.847) |
| Military | 45.5% (*P*=0.048) | 36.4% (*P*=0.540) | 18.2% (*P*=0.746) |

**Table 5: Association between work characteristic factors and high-level burnout**

| | High-level Burnout | | |
|---|---|---|---|
| | **Emotional Exhaustion** | **Depersonalization** | **Sense of low personal achievement** |
| Years in practice | | | |
| <5 years | 2.8% | 30.6% | 47.2% |
| Between 5-10 years | 20.5% | 48.7% | 20.5% |
| >10 years | 30.7% (*P*=0.008) | 36% (*P*=0.253) | 21.3% (*P*=0.046) |
| Hours of work/day | | | |
| 8 h or less | 15.3% | 35.1% | 29.7% |
| >8 h | 38.5% (*P*=0.003) | 46.2% (*P*=0.091) | 20.5% (*P*=0.138) |
| ER shifts/month | | | |
| <5 | 0% | 33.3% | 16.7% |
| equal/more than 5 | 60% (*P*=0.033) | 80% (*P*=0.647) | 20% (*P*=0.330) |
| Time of last vacation | | | |
| 1 month | 12% | 34% | 24% |
| 2-6 months | 27.2% | 37% | 29.6% |
| >6 months | 21.1% (*P*=0.246) | 52.6% (*P*=0.388) | 26.3% (*P*=0.750) |
| Break time | | | |
| <30 min | 25.6% | 42.2% | 23.3% |
| >30 min | 15% (*P*=0.247) | 31.% (*P*=0.207) | 33.3% (*P*=0.198) |
| Multiple tasks | | | |
| Yes | 20.7% | 33.3% | 27.6% |
| No | 22.2% (*P*=0.714) | 44.4% (*P*=0.355) | 27.0% (*P*=0.791) |
| Overtime work/week | | | |
| <8 h | 42.9% | 50% | 33.7% |
| >8 h | 20% (*P*=0.281) | 35% (*P*=0.269) | 25% (*P*=0.774) |

**Table 6: High-level burnout among those who acknowledge having burnout and think it affects their patient care**

| | High-level Burnout | | |
|---|---|---|---|
| | **Emotional Exhaustion** | **Depersonalization** | **Personal achievement** |
| Who acknowledged having burnout | 39.2% (*P*=0.000) | 59.5% (*P*=0.000) | 33.8% (*P*=0.042) |
| Who acknowledged that burnout affects their patient care | 27.2% (*P*=0.006) | 44.7% (*P*=0.005) | 28.9% (*P*=0.569) |

**Table 7: Impact of high-level burnout on patient care among Family Medicine doctors demonstrated by the *P***

| | High-level burnout | | |
|---|---|---|---|
| | **Emotional exhaustion** | **Depersonalization** | **Personal achievement** |
| Referring patients to make work more easy | *P*=0.204 | *P*=0.050 | *P*=0.001 |
| Not discussing options or answering questions | *P*=0.758 | *P*=0.286 | *P*=0.000 |
| Ordering more tests and imaging studies because of busy work | *P*=0.004 | *P*=0.006 | *P*=0.002 |
| Prescribing medications without further evaluation | *P*=0.013 | *P*=0.002 | *P*=0.000 |
| Little attention on the impact of the disease on the patient | *P*=0.413 | *P*=0.001 | *P*=0.000 |
| Start earlier than the exact time because of the load of the patients | *P*=0.050 | *P*=0.492 | *P*=0.320 |
| Telling the patient during the consultation to discuss later because there is no time | *P*=0.025 | *P*=0.005 | *P*=0.011 |
| More over booked/walk in clinics | *P*=0.001 | *P*=0.795 | *P*=0.930 |

projects as well as preparing for their exam. These findings were compatible with studies of internal medicine and Emergency residents.[16,17] In contrast, residents had less EE than both staff physicians and consultants, with statistically significant results.

Work characteristics are important factors for developing burnout. A significant association was found between high EE, high DP, and some of the following characteristics; job title, military physicians, years in practice, hours of work per day, and covering ER shifts. These findings were consistent with previous studies, which found out that burnout is determined by work environment more than personal factors, which confirms that burnout is more of a social problem rather than an individual one.[7,29]

Personal characteristics play an important role in developing burnout, but in this study, there was no significant association between them and high-level burnout, which was also seen in another study done among primary care physicians in a military hospital in Riyadh.[17]

Among the seven clinics at the FM department involved in this study, the physicians working at the health care specialty center (HCSC) reported the highest level of burnout. Being

one of the main clinics near the main hospital, with an extra patient load and lack of enough staff and facilities, could be a contributing factor.

High-level burnout demonstrates a statistically significant impact on the patient care among the doctors of this study which was reported previously in two studies of internal medicine and ER physicians.[20,21] The present authors theorized that burnout is a significant condition that can be caused by many associated factors that may affect doctors' health and their well-being as well as their performance as care providers.

This study was limited as it was a cross-sectional study that does not allow observing a causal relationship between the variables. The results relied on self-reporting patient care, so participants might have over or underestimated their level of burnout and its impact on patient care. This is in addition to the small sample size that may affect the results.

To the authors' knowledge, this is the first study to examine the impact of burnout on patient care among doctors of the Family Medicine department, including consultants, staff physicians, and family medicine residents. Their work nature in providing comprehensive, continuous care to a variety of patients and their families put them at risk of developing burnout and emotional depletion, which in turn can affect the patient care.

## Conclusion

High-level burnout was found among FM physicians at King Abdul-Aziz Medical City in Riyadh. Overall, 21.3% of the respondents reported high-level EE, 38% reported high depersonalization, and 27.3% reported low feelings of personal achievement. Staff physicians had higher EE than the others, while FM residents had higher depersonalizations and low personal achievement. High-level burnout is significantly associated with work characteristics and seems to be affecting physician's self-reported patient care.

Further research is needed to examine physicians' burnout and its association with actual patient care; training about coping strategies with burnout at the workplace should also be considered. Future researches are required to study in-depth the causative factors of burnout, and to provide effective intervention strategies.

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## Ethics approval and consent to participate

Yes, available.

## Consent for publication

The written informed consent was obtained from each of the patients before data collection.

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## Conflicts of interest

There are no conflicts of interest.

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