



PREVALENCE OF BURNOUT AMONG PHYSICIANS WORKING IN KING FAHD ARMED FORCES HOSPITAL (KFAFH) PRIMARY HEALTH CARE CENTERS IN JEDDAH, 2013

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ARTICLE INFO

Article History:

Received 15th November, 2021

Received in revised form 7th

December, 2021

Accepted 13th January, 2022

Published online 28th February, 2022

Key words:

Burnout, Emotional Exhaustion, Depersonalization, personal accomplishment, family medicine, Saudi Arabia

ABSTRACT

Background: Burnout syndrome is an occupational mental health problem that affects human service professionals, including physicians, due to chronic job stress. It is a syndrome of three dimensions: high emotional exhaustion (EE), high depersonalization (DP) and reduced personal accomplishment (PA), that can occur among individuals who work with people.

Burnout is quite prevalent in health care professionals especially primary care and family medicine physicians. The consequences of physicians burnout are serious, not only because it reflects personal suffering, but also because burnout threatens the quality of care doctors are expected to deliver

Objective: This study was conducted to determine the prevalence of burnout among Family Physicians working in King Fahad Armed Forces Hospital PHC centers, Jeddah, Saudi Arabia and to determine the associated factors potentially contributing to burnout among the study group.

Methodology: A cross-sectional survey of KFAFH Family Physicians was conducted using a self-administered validated questionnaire composed of two parts. The first part included questions about demographic factors, working experience, health, lifestyle and job satisfaction. The second part was Burnout Inventory-Human Services Survey (MBI). were analyzed in the three dimensions of emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA). The SPSS program was used for data entry and analysis. Multiple regression analysis was used to find out the possible predictors of burnout.

Results: Almost 106 questionnaires were distributed, and 101 were returned to give a response rate of 95.2%. Less than half of them (47.5%) were aged < 34 years. The females were (57.4%) and the majority were married (80.2%). Saudi Arabian nationality physicians were 54.5%

In terms of burnout, 75.2% of respondents scored high for EE burnout, 51.5% for DP and 32.7% for PA, with 20% scoring high burnout in all three dimensions. Just 17% of doctors did not score high for burnout in any dimension.

Conclusions: Burnout is present among primary care physicians at a relatively high percentage. This situation is strongly associated with several of the variables under study which are low job satisfaction, smoking, lower years of experience, lower monthly income, uncertification in family medicine, professional and private difficulties, working during weekends and lack of knowledge about job description.

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INTRODUCTION

Background

Operational definition

The most popular state definition is by Maslach and Jackson (1986): "Burnout is a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do people work of some kind".⁽¹⁾

1. **The exhaustion component:** It refers feelings of being overextended and depleted of one's emotional and physical resources.

2. **Depersonalization component:** It refers to negative, callous, or excessively detached response towards the recipients.
3. **The component of reduced accomplishment:** It refers to feeling of incompetence and lack of achievement and productivity at work.⁽²⁾

Symptoms and Assessment

The symptoms can be grouped in five clusters:

1. Affective (depressed mood, emotional exhaustion).
2. Cognitive (poor concentration, forgetfulness).
3. Physical (headache, sleep disturbances).
4. Behavioral (poor work performance, absenteeism).
5. Motivational (loss of idealism, disillusionment).

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Typically, burnout is not restricted to symptoms at the individual level; in addition to, interpersonal symptoms in relation to colleagues and recipients of one's care or services are observed (e.g. dehumanization, indifference) as well as symptoms that are related to organizational outcomes (e.g. job turnover, job dissatisfaction).⁽³⁾

Consequences of Physician burnout

Studies show that physicians personal relationships are damaged by burnout in which the physicians may neglect their families and having problems in their marriage.⁽⁴⁾ Previous investigations in a wide variety of settings have shown important consequences of burnout. Relevant to the medical profession, burnout may affect performance and quality of medical service.⁽⁵⁾

Factors associated with burnout

Individual factors

Demographic characteristics

Age: younger age reporting high burnout due to lack of experience.

Marital status: singles usually having higher burnout in comparison with those who are married or divorced.

Sex: some studies showed that women were more likely to suffer from high burnout especially high scores of emotional exhaustion, other studies showed that males were more likely to score high on depersonalization.

High level of education: it was found that the educated people having higher expectation which might put too much stress on the individual.

Personality characteristics

Poor self-esteem, external locus of control, type –A behavior and feeling type rather than thinking type.

Situational factors

- **Workload:** it was found that excessive work exhaust an individual energy.
- **Work control:** insufficient authority, little participation in decision making, role ambiguity and patient related problems were found to affect all aspects of burnout.
- **Social support:** strong evidence that a lack of social support especially from supervisors was linked to burnout.
- **Reward:** lack of appropriate reward is closely associated with feeling of inefficacy and burnout.
- **Fairness:** lack of fairness exacerbates burnout .

Rationale

1. Previous research has shown that a moderate to high level of burnout exists among general practitioners and family physicians(20-21)
2. The family physicians need to have wide range of knowledge and skills, and after their graduation they usually work in a stressful environment.
3. I have history of burn out many times during my pre & post graduate education.
4. During my rotations in KFAFH, I saw many physician colleagues have symptoms of burnout.
5. Up to my knowledge, there were no previous studies to show burnout & workload indicators in Jeddah, KFAFH.

Aim of the study

To deliver the information to decision makers that help them in implementation of stress management program for primary care physicians working in KFAFH.

Objectives

1. To estimate the Prevalence of Burnout among Physicians working in primary care clinics in Jeddah KFAFH, 2013.
2. To determine the associated factors potentially contributing to burnout among the study group.

LITERATURE REVIEW

Prevalence of burnout in Primary health care physicians:

After an extensive search of the English Language literature of (TripDataBase, PubMed & unpublished data), Researcher found (16) studies concerning Primary health care physicians burnout:

- (11) International studies about burnout in Physicians.
- (3) Studies in Gulf countries (Qatar & Kuwait).
- (4) Local studies about burnout in Physicians in KSA.

Several studies estimated the prevalence of Burnout in Primary health care physicians (Family physicians & GPs) is in the range of (6% to 36.8%).⁽⁶⁻²²⁾

Burnout is quite prevalent in health care professionals especially primary care physicians. Typically, when compared with other physicians, primary health care physicians report relatively high burnout rates. This is illustrated by a recent meta-analysis that covered 110 studies and concluded that primary health care physicians exhibit significantly higher burnout scores compared to medical specialists, residents, medical students, and other practicing physicians.⁽²⁴⁾

International Burnout Studies

In UK, 2011 a Cross- sectional study was Carried out to assess the burnout in a sample of GPs and to determine factors associated with depersonalisation. High levels of EE:(46%), DP:(42%) and low levels of PA:(34%) were reported. Male doctors reported significantly higher depersonalisation than female doctors. Doctors registered with the General Medical Council less than 20 years had significantly higher depersonalisation scores than those registered for longer.⁽⁶⁾

A Centre for Family Medicine in an urban area in southwestern Ontario, Canada, performed a Cross-sectional Census survey in 2008 To ascertain Canadian family physicians' levels of stress and burnout and the strategies they use to reduce these problems. Many respondents scored high on the burnout inventory, and almost half had high levels of EE (47.9%) and DP (46.3%). Demographic factors were not associated with high scores on these components. Use of strategies to reduce personal and occupational stress was associated with lower levels of burnout.⁽⁷⁾

A Cross-sectional survey was carried out in Switzerland in 2002, 2004 and 2007 to examine the change in burnout prevalence over time among Swiss doctors. Burnout among GPs increased from (4%) to (6%). A moderate-degree burnout (high EE or DP) increased from (33%) to (42%). An increased risk of moderate burnout was found for doctors surveyed in 2004 and 2007, GPs and French-speaking doctors. An

increased risk of high-degree burnout was found only for general practitioners.⁽⁸⁾

In 2006 in UK, University of Ulster performed a Cross-sectional study in 12 European countries to determine the prevalence of burnout, and its associated factors amongst family doctors in European countries. (12%) of family doctors scored high burnout, (43%) scored high for EE, (35%) for DP and (32%) for PA. Just over one-third of doctors did not score high for burnout in any dimension. High burnout was found to be strongly associated with respondents' country of residence and European region, job satisfaction, intention to change job, sick leave utilization, the abuse of alcohol, tobacco & psychotropic medication, younger age and male sex.⁽⁹⁾

A three-wave longitudinal study was conducted in (2002, 2004, 2006) in a random sample of Dutch GPs in the Netherlands to assess the prevalence and development of burnout among General Practitioners. About (20%) of the GPs were clinically burned out (but still working). The prevalence of DP was higher among men. With regard to the process of burnout that for men burnout was triggered by DP and by EE for women.⁽¹⁰⁾

In U.S between (2002 & 2005) a Cross-sectional study was conducted to investigate the relationship between burnout, work environment, and a variety of personal variables within a population of family medicine and psychiatry residents. Psychiatry residents reported less burnout than family medicine residents on the DP (2.49%) and EE (2.05%). Female residents had lower scores on the DP (3.37%), Parenting was associated with lower DP (3.98%) and EE (2.59%).⁽¹¹⁾

Another Cross-sectional study was done in Aarhus, Denmark, 2004 To investigate the association between participating in CME and experiencing burnout in a sample of Danish GPs. Prevalence of burnout was about (25%), and almost (3%) suffered from 'high burnout'. Not being a member of either a CME group or a supervision group was statistically significantly associated with doubled likelihood of burnout.⁽¹²⁾

In 2002, a cross-sectional postal survey conducted in Switzerland to measure the prevalence of burnout among Swiss primary care practitioners. (4%) of GPs had burnout and (32%) had a high EE or DP scale (moderate degree of burnout). (19%) had a high EE, (2%) had a high DP and (16%) had a low PA. A high degree of burnout was associated with male sex, practicing in a rural area, global workload, patient's expectations, difficulties to balance professional & private life, economic constraints in relation to the practice, medical care uncertainty & difficult relations with non-medical staff at the practice.⁽¹³⁾

One Cross-sectional mailed survey Performed in Vancouver, Canada, 2001 to determine the prevalence of depression and burnout among family physicians working in British Columbia's Northern and Isolation Allowance communities. (80%) of physicians suffered from moderate-to-severe EE, (61%) suffered from moderate-to-severe DP and (44%) had moderate-to-low feelings of PA. More than half the respondents were considering relocation. Intention to move was strongly associated with poor mental health.⁽¹⁴⁾

A University of Ferrara in Italy conducted a Cross-sectional study in 2000 to investigate the prevalence of & the relationship between psychiatric morbidity & burnout among Italian GPs & hospital physicians. The prevalence of burnout

was (20.3%) among GPs. High EE was in 32.4%, high DP was in 27.4% and Low PA was in 31.1%. Female GPs reported lower score of DP than Male GPs.⁽¹⁵⁾

In England, March 1993 a Cross-sectional study was carried out to examine the extent of burnout among British general practitioners. There was a significantly higher level of burnout among the Northamptonshire doctors compared with the North American sample. There was virtually no association between age and the level of burnout, although a small negative correlation was found between age and the depersonalization subscale.⁽¹⁶⁾

Burnout Studies in Regional countries

In Kuwait, One Cross-sectional study was Carried out between August 2010 & March 2011 To compare the prevalence of high burnout among family physicians and GPs. Prevalence of burnout was (36.8%) in GPs compared with only (5.7%) in family physicians. GPs were more likely to suffer from high EE (63.2%) than family physicians (19.0%). GPs have high DP (65.3%) compared with family physicians (27.6%). Those suffering from high PA burnout (inverse score) constituted (61.1%) of GPs and (33.3%) of family physicians. Type of physician job & marital status proved to be significant predictors of high grades of burnout with higher rates among the currently single ones.⁽¹⁷⁾

Another cross-sectional study was conducted in Qatar in 2010 to estimate the prevalence of burnout among PHC physicians in Qatar, and to identify its determinants. (12.6%) of GPs were burned out. Burnout was higher among female GPs (28.1%) than male GPs (6.9%). In terms of nationality, (37.8%) of the Qatari GPs were burned out, compared to (11.6%) of the foreign GPs. Burnout was reversibly associated with years of experience and age.⁽¹⁸⁾

One cross-sectional study was conducted in Yemen in 2010 to estimate the prevalence and associated factors of burnout among doctors in Yemen. The study showed high EE (63.2%), high DP (19.4%), low PA (33%) and (11.7%) in all three dimensions.⁽¹⁹⁾

Burnout Studies in KSA

Across-sectional study was done in Al-Riyadh, 2013 to find out the prevalence of burnout amongst physicians working in Riyadh military Hospital was done by Dr. Selaihem A. (53.5%) of physicians were found to be in a state of EE, (38.9%) DP, and (28.5%) had low state of PA.⁽²⁰⁾

In 2013, a Cross-sectional study about the prevalence of burnout and its associated factors among physicians working in PHC in Asir province conducted by Dr. Al-Sareai, Al-Khaldi, Mostafa, and Abdel Fattah.

29.5% of respondents reported high emotional exhaustion, 15.7% high depersonalization and 19.7% low personal accomplishment, with 6.3% scoring high in all 3 dimensions. High emotional exhaustion score was associated with younger age, Saudi nationality and salary 15 000–20 000 SR

High depersonalization score was associated with Saudi nationality, working for 5–15 years and salary > 20 000 SR. Low personal accomplishment score was associated with younger age, non-Saudi nationality, working for ≥ 5 years and more annual vacation.⁽²¹⁾

A cross-sectional analytic studies was conducted inJoint program of family and community medicine Jeddah in 2008, the study was done to estimate the prevalence of burnout among Saudi female physicians working in (MOH) Hospitals in Jeddah by Dr. Al-Saiari A , Prevalence of burnout was (7.3 %). High EE (66.7%), high DP(47.8%) and (33.3%) had a low state of PA. Work duties, transportation problems, marital status (being single) and lack of supervisor support were significantly related to burnout.⁽²²⁾

In 2003, a Cross-sectional study about the prevalence of burnout among family physicians in Jeddah was conducted by Dr.Al Ahmadi J. inJoint program of family and community medicine Jeddah. The prevalence rate of burnout was (14.8%).Burnout was higher among females but not statistically significant. Lack of family support, supervisor support and recreational activities were a strong predictors of burnout.⁽²³⁾

METHADODOLOGY

Study area

Jeddah is the second largest city in Saudi Arabia; it is the main port of the kingdom on the Red Sea and main gate through which most of the pilgrims arrive by air and sea to perform Umrah, Hajj or to visit the two holy mosques. Area inhabited is more than 1,500 km, and population is more than 3.4 millions.

In Jeddah there are around 12 governmental hospitals , 39 PHC centers, more than 30 private hospitals and 128 polyclinics.

The study will be conducted in KFAFH primary health care centers in Jeddah which contain 9 centers distributed in Jeddah city serving military staff and their families. Ranging from 5-6 doctors in one center to more than 73 doctors in one big center.

Study design

This study is a Cross- sectional analytical study.

Study population

Inclusion criteria

Family physician and GPs working in KFAFH primary health care centers, Jeddah city, Saudi Arabia, 2013.

Exclusion criteria

All other Specialized physicians in PHC clinics like (pediatricians, obstetric & gynecologists and interns).

Sampling

Sample size

The total number of Family physicians and general practitioners is (106) physicians. This will represent the total population of this study.

Sampling technique

Owing to the small number of the physicians , all physicians present at the time of study will be included in the study.

Data Collection

Data Collection tool

- A self-administered questionnaire from maslach burnout inventory (**MBI**) will be used. the MBI is designed to assess the three component of the burnout syndrome: (emotional exhaustion, depersonalization and reduced personal accomplishment).
- The questionnaire consists of two parts:

The first part

Includes the socio-demographic variables, information on demography and personal characteristics which include (age, gender, nationality, education level, marital status, number of children, years of practice, professional status, monthly income, transportation, recreational activities and support).

The second part

is the MBI, which consist of **22** items that measure burnout, and it is divided into three subscales:

1. Emotional Exhaustion = (9 items).
2. Depersonalization (Cynicism) = (5 items).
3. Personal Accomplishment = (8 items).

For both the emotional exhaustion and depersonalization subscale, higher mean scores correspond to higher degree of experienced burnout. In contrast to these two subscales, lower mean scores on personal accomplishment subscale correspond to higher degree of experienced burnout. the items are written in the form of statements about personal feelings or attitudes and are answered in terms of the frequency with which the respondent experiences these feelings, on a 7-point Likert fully anchored (ranging from 0 , " never " to 6, "every day ").

Each respondent's test form is scored by using a scoring key that contains directions for scoring each subscale. The scores for each subscale are considered separately and are not combined into a single total score, thus three scores are computed for each respondent. If desired for individual feedback, each score can be then coded as low, average, or high by using the numerical cutoff points listed on the scoring key.

Categorization of MBI scores

MBI subscales	Low	Average	High
Emotional exhaustion	≤ 18	19-26	≥ 27
Depersonalization	≤ 5	6-9	≥ 10
Personal accomplishment	≥ 40	39-34	≤ 33

Burnout is defined as high scores of emotional exhaustion and depersonalization and low score on personal accomplishment. Scores are considered high if they are in the upper third of normative distribution, average if they are in the middle third and low score if they are in the lower third. The MBI has become the gold standard for identifying burnout in the medical research literature which is found to be reliable and valid.⁽²⁴⁾

Data Collection technique

1. I will visit the selected primary health care clinics after getting approval from the primary health care director and I will explain the purpose of the study to all family physicians & GPs.
2. The questionnaire will be distributed to Family physicians & GPs by me hand to hand during their

break or free time according to each physician in his or her clinic, and then will be collected in the same way either immediately or after a period of time with follow up through phone or e-mail to those who did not respond immediately.

Variables

Dependent variables

The presence or absence of the burnout.

Independent variables

Age, Gender, Marital status, Number of children, Nationality, Scientific degree, Years since qualification as a doctor, Years in current workplace, Income, earning working conditions (Number of working hours per week, patients per week, Night shifts, weekend worked), Intention of changing job, Sick leave utilization, Sleep patterns and smoking.

Data entry and Analysis

- All collected data will be verified by hand and will be corrected when necessary then will be coded before its entry to a personal computer.
- Data entry and analysis will be done by using the Statistical Package of the Social Sciences (SPSS) statistical program version 20.
- P-value of less than 0.05 will be considered as a level for significance throughout the study.

Statistical tests

- For descriptive statistic, mean, median, SD and frequency distribution will be used.
- Continuous variables will be presented as means & standard deviation.
- Categorical variables will be presented as frequencies & percentages.
- For categorical variables Chi-square will be used to identify differences among subsets of groups.
- T- Test, Chi-square, Mann-Whitney & Other appropriate statistical tests will be used for statistical analysis.

Statistical Analysis

The collected data was analysed using SPSS, version 18.0. Percentages were used as descriptive statistics. Separate multivariable logistic regression models were used to identify the main predictors of high emotional exhaustion, high risk of depersonalization and low personal accomplishment. A p value less than 5% was considered as significant for independent variables in the final models.

Emotional exhaustion, depersonalization and personal accomplishment on the MBI scale were treated as the dependent variables in multivariate logistic regression analysis. The independent variables were: the demographic characteristics (age, sex, marital status, nationality, qualifications and salary) and professional characteristics (years of profession, duration of work in the current facility, working during weekend). Three multivariate logistic regression models were created, 1 for each subscale of the MBI scale.

Pilot Study

1. Pilot study will be conducted to (N=10) physicians (5 family physicians & 5 GPs), to test the questionnaire applicability and understanding before starting the actual research.
2. The data from pilot study will be analyzed and will not be included in the main study.
3. Time will be assessed for each participant which help in estimating the time needed to complete one questionnaire.

Ethical consideration

1. Written permission from Joint Program of Family & Community Medicine to start the study .
2. Permission of primary health care clinics director will be obtained.
3. A verbal consent will be taken from each participant to participate in the study.
4. All information will be kept confidential and will not be accessed except for the purpose of the scientific research.

RESULTS

Demographic characteristics

Out of 106 questionnaires distributed to eligible physicians, 101 were returned, giving a response rate of 95.2%. Table 1 shows the socio-demographic characteristics of physicians. Their age ranged between 25–64 years. Less than half of them (47.5%) were aged < 34 years. The females were (57.4%) and the majority were married (80.2%).

Saudi Arabian nationality physicians were 54.5%. About 46.5% of the studied physicians were not certified in family medicine, while (53.5%) are certified. The majority (92.1%) had a monthly salary of > 10 000 Saudi riyals (SR) and 7.9% a salary of < 10 000 SR. More than 50% of them have children between 2 and 4. The smokers were 19.8% and 22% have chronic disease.

Work experience ≤ 5 years was reported by 52.5% of the participants, while experience > 10 years was reported by 20.8%.

Table 1 Socio-demographic and job characteristics of the studied family physicians

Characteristics	Number	Percentage
Age:		
25 – 34	48	47.5
35 – 44	37	36.6
45 – 54	8	7.9
≥ 55	8	7.9
Gender:		
Male	43	42.6
Female	58	57.4
Nationality:		
Saudi	55	54.5
Non-Saudi	46	45.5
Marital Status:		
Single	17	16.8
Married	81	80.2
Divorced	3	3
Number of Children:		
0 – 1	39	38.6
2 – 4	54	53.5
≥ 5	8	7.9
Smoking:		
No	81	80.2

Yes	20	19.8
Current Position:		
GP not certified in family medicine	47	46.5
GP certified in family medicine	54	53.5
Years of Experience:		
1 – 4	53	52.5
5 – 9	27	26.7
≥ 10	21	20.8
Monthly Income:		
5000 – 10,000	8	7.9
10,000 – 15,000	34	33.7
≥ 15,000	59	58.4
Chronic Illness:		
Ischemic heart disease	2	2
Diabetes mellitus	5	5
Hypertension	4	4
Others	11	11
Total	101	100

Prevalence of burnout

More than 75% of the respondents had a high level of emotional exhaustion, 51.5% had a high level of depersonalization and 32.7% had a low level of personal accomplishment. Overall, 20 % of the studied physicians were having pathological scores on Maslach Burnout Inventory subscales in all its 3 dimensions (figure 1). In addition, about 17% had no burnout in any dimension (figure 1).

Figure 1: Distribution of the studied population according to the number of dimensions

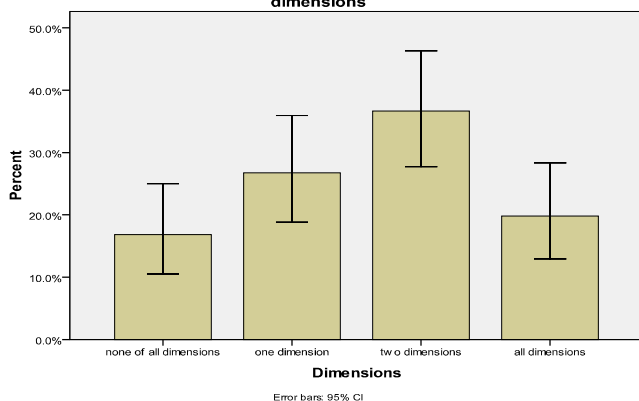


Table 2 shows the distribution of the pathological scores of Maslach Burnout Inventory subscales among the studied population according to the socio-demographic characteristics. In the group of high level of emotional exhaustion, high level of depersonalization and low level of personal accomplishment, the percentage of younger age group, females, married and monthly income more than 15000 SR were higher.

The percentage of Saudi nationality were almost equal to non-Saudi among physicians with emotional exhaustion and depersonalization, meanwhile the percentage of Saudi physicians with low personal accomplishments was 72.7%.

Table 3 shows the distribution of the pathological scores of Maslach Burnout Inventory subscales among the studied population according to the professional characteristics.

The percentage of physicians who are not certified in family medicine ranged from 43% among physicians with emotional exhaustion to 51.5% among physicians with low personal accomplishments. The percentage of physicians who have experience < 9 years were more than 75% among physicians with emotional exhaustion, physicians with depersonalization, and physicians with low personal accomplishments.

Table 2 Distribution of the pathological scores of Maslach Burnout Inventory subscales among the studied population according to the socio-demographic characteristics.

Characteristics	Emotional Exhaustion No. (%)	Depersonalization No. (%)	Low personal accomplishment No. (%)
Age:			
25 – 34	38 (50)	22 (42.3)	19 (57.6)
35 – 44	26 (34.2)	20 (38.5)	8 (24.2)
45 – 54	6 (7.9)	5 (9.6)	1 (3)
≥ 55	6 (7.9)	5 (9.6)	5 (15.2)
Gender:			
Male	33 (43.4)	22 (42.3)	11 (33.3)
Female	43 (56.6)	30 (57.7)	22 (66.7)
Marital Status:			
Single	13 (17.1)	6 (11.5)	4 (12.2)
Married	62 (81.6)	44 (84.6)	28 (84.8)
Divorced	1 (1.3)	2 (3.8)	1 (3)
Nationality:			
Saudi	40 (52.6)	25 (48.1)	24 (72.7)
Non-Saudi	36 (47.4)	27 (51.9)	9 (27.3)
Monthly Income:			
5000 – 10,000	4 (5.2)	4 (7.7)	2 (6)
10,000 – 15,000	28 (36.8)	20 (38.5)	8 (24.2)
≥ 15,000	44 (58)	28 (53.8)	23 (69.8)

The percentage of physicians who work during weekend were 69.7% among physicians with emotional exhaustion , 71.2% among physicians with depersonalization, and 48.5% among physicians with low personal accomplishments.

The percentage of physicians who have no knowledge about their job description were 23.7% among physicians with emotional exhaustion, 23.1% among physicians with depersonalization, and 39.4% among physicians with low personal accomplishments.

The percentage of the non job satisfaction was very high, it varied between 71% among physicians with emotional exhaustion to 78% among physicians with low personal accomplishments.

The percentage of physicians who have difficulties to balance professional and private life were 46.1% among physicians with emotional exhaustion, 51.9% among physicians with depersonalization, and 42.4 among physicians with low personal accomplishments.

Table 3 Distribution of the pathological scores of Maslach Burnout Inventory subscales among the studied population according to the professional characteristics

Characteristics	Emotional Exhaustion No. (%)	Depersonalization No. (%)	Low personal accomplishment No. (%)
Current Position:			
GP not certified in family medicine	33 (43.4)	23 (44.2)	17 (51.5)
GP certified in family medicine	43 (56.6)	29 (55.8)	16 (48.5)
Years of Experience:			
1 – 4	38 (50)	22 (42.3)	21 (63.6)
5 – 9	23 (30.3)	18 (34.6)	4 (12.1)
≥ 10	15 (10.7)	12 (23.1)	8 (24.2)
Current Job Satisfaction:			
Yes	22 (28.9)	12 (23.1)	7 (21.2)
No	54 (71.1)	40 (76.9)	26 (78.8)
Work during weekend:			
Yes	53 (69.7)	37 (71.2)	16 (48.5)
No	23 (30.3)	15 (28.8)	17 (51.5)

Knowledge of job description:			
Yes	58 (76.3)	40 (76.9)	20 (60.6)
No	18 (23.7)	12 (23.1)	13 (39.4)
Difficulties to balance professional and private life:			
Yes	35 (46.1)	27 (51.9)	14 (42.4)
No	41 (53.9)	25 (48.1)	19 (57.6)

Predictors for burnout

The results of multivariate logistic regression analysis for risk factors for emotional exhaustion are presented in Table 4. Although emotional exhaustion are higher in physicians who works during weekends, it was not found to be statistically significant. Physicians who were not satisfied with their current job and General Practitioners who were not certified in family medicine were more likely to report emotional exhaustion with respectively (OR=7.67; CI 95%:2.48-23.69),(OR=3.2; CI 95%:1.05-9.78).

Globally, monthly income was significantly associated with the risk of high emotional exhaustion (p=0.04). Physicians who had salary between 5000-10000 SR were more likely to be emotionally exhausted than those who had salary more than >15000 SR.

Table 4 Predictors of high emotional exhaustion :results of multivariate logistic regression analysis

Variable	OR	CI (95%)	P value
Current Job Satisfaction:			
Yes	1	-	0.001
No	7.67	(2.48 – 23.69)	
Current Position:			
GP certified in family medicine	1	-	0.04
GP not certified in family medicine	3.20	(1.05 – 9.78)	
Monthly Income:			
≥ 15000 SR	1	-	0.04
10000-15000 SR	0.11	(0.02 – 0.73)	
5000-10000 SR	1.32	0.38 – 4.51)	
Work during weekend:			
Yes	1	-	0.24
No	2.01	(0.62 – 6.43)	

The risk factors of depersonalization are presented in Table (5). Physicians who are not satisfied with their current job and those who are having professional and private difficulties were more likely to report emotional exhaustion with respectively OR=3.99; CI 95%:1.55-10.27) and (OR=2.64; CI 95%:1.05-6.65).

Globally, years of experience was significantly associated with the risk of high depersonalization (p=0.03). Physicians who worked for a period of four years or less had doubled risk for depersonalization as compared to those who worked for > 10 years.

The risk factors for low personal accomplishment are presented in Table (6). Physicians who works during weekends, do not know their job description were more likely to report a low level of personal accomplishment with respectively (OR=3.37; CI 95%:1.25-9.11) and (OR= 4.42; CI 95%:1.48-13.23).

Table 5 Predictors of high depersonalization: results of multivariate logistic regression analysis

Variable	OR	CI (95%)	P value
Current Job Satisfaction:			
Yes	1	-	0.004
No	3.99	(1.55 – 10.27)	
Difficulties because professional & private life:			
No	1	-	0.03
Yes	2.64	(1.05 – 6.65)	
Current position experience:			
> 10 years	1	-	0.03
5 – 9 years	0.33	(0.10 – 1.07)	
1 – 4 years	1.99	(0.33 – 4.30)	

Physicians who were smokers had 7-fold risk for personal accomplishment as compared to non smokers (OR = 7.09; CI95%: 2.23-22.51).

Table 6 Predictors of low personal accomplishment :results of multivariate logistic regression

Variable	OR	CI (95%)	P value
Work during weekend:			
No	1	-	0.016
Yes	3.37	(1.25 – 9.11)	
Knowledge of job description:			
Yes	1	-	0.008
No	4.42	(1.48 – 13.23)	
Regular smoking:			
No	1	-	0.001
Yes	7.09	(2.23 – 22.51)	

DISCUSSION

The presence of burnout syndrome among family physicians is not surprising, as illustrated by Mauthe, Boudreau, & Lalumi in their meta-analysis in 1998, what makes our study results annoying is that very high percentage (83%) of Family Medicine Physicians at King Fahad Armed Forces Hospital are affected with at least one burnout dimension on the subscales of Maslach Burnout Inventory, leaving only about 17% free of burnout. This result was the highest compared to local, regional or international studies.

At the local level, few studies were looking for burnout in family medicine and general practitioners. In Riyadh military Hospital where there are similar population and working environment, the prevalence of burnout, the scores of EE, DP and low state of PA were less prevalent than that of this study (Selaihem, 2013).

As compared to military hospital, family medicine physicians and general practitioners of Ministry of Health in Asir do suffer from burnout, but to a rate far lower than that appeared in our study (Al-Sareai, Al-Khaldi, Mostafa, and Abdel-Fattah, 2013).

At the regional level, there was three studies about burnout among physicians, the first was in Kuwait, the second was in Yemen and a third one in Qatar. In Kuwait and far below this study result, Yasmin *et al* reported that burnout syndrome

prevalence was (36.8%) in General Practitioners working at the primary care level. Compared to the finding of this study, the percentage of High EE and High DP was lower than our study, while low PA score was much higher (Yasmin *et al.*, 2011).

Another cross-sectional study was conducted in Qatar in 2010 to estimate the prevalence of burnout among PHC physicians in Qatar, and to identify its determinants. (12.6%) of GPs were burned out (Abdulla, Al-Qahtani & Al-Kuwari, 2011).

In Yemini Doctors, the percentage of High EE and High DP was lower than our study, while low PA score was comparable, keeping in mind the poor yemini economy and that not all respondents were PHC doctors (Al-Dubai S and Rampal, 2010).

At the international level, the European family doctors do suffer from burnout as our physicians do with a high rate which is not far from our rate, the prevalence of burnout was 66% compared to 83% in this study with almost similar rate in low state of PA, our participants were more emotionally exhausted and have higher feeling of depersonalization (Soler *et al.*, 2008). On the other hand the Canadian family doctors were in a better state with regards to the prevalence as well as all the MBI subscales (Thommasen *et al.*; 2001).

As shown in table 7 this study found that the prevalence of KFAFH family medicine and general practitioner burnout syndrome (83%) was the highest among local, regional and international studies. Similarly, the scores of Emotional Exhaustion (75.2%) and Depersonalization (51.5%) on subscales of MBI were also the highest. With the exception of Kuwaiti (Yasmin *et al.*, 2011) and Yemini (Al-Dubai S and Rampal, 2010) studies the low state of PA (32.7%) were high too.

Predictors for burnout

Maslach identified six categories where most person-job mismatches fall into, they could be related to workload (too much work, not enough resources); control (micromanagement, lack of influence, accountability without power); reward (not enough pay, acknowledgment, or satisfaction); community (isolation, conflict, disrespect); fairness (discrimination, favoritism); and values (ethical conflicts, meaningless tasks) (Maslach, & Leiter, 1997).

The association of different socio-demographic variables and job characteristics with KFAFH Family physicians burnout is demonstrated in the following paragraphs:

Age

Although different studies showed the strong association of high burnout and younger age (Soler *et al.*, 2008), (Al-Sareai, Al-Khaldi, Mostafa, and Abdel-Fattah, 2013), (Selaihem, 2013). Our study didn't show any significant relation to age.

Sex

It is well documented that the female gender is considered a determinant for developing burnout syndrome (Abdulla, Al-Qahtani & Al-Kuwari, 2011). However In Europe High burnout was found to be more likely in association with male sex (Soler *et al.*, 2008). This study didn't show any significant difference among male or female gender.

Nationality

Although different studies showed the strong association of high burnout and certain nationalities (Soler *et al.*, 2008), (Yasmin *et al.*, 2011) (Al-Sareai, Al-Khaldi, Mostafa, and Abdel-Fattah, 2013), (Abdulla, Al-Qahtani & Al-Kuwari, 2011).

Table 7 Descriptive Analysis of Previously Published Studies of Burnout in Family Doctors (FDs) or Primary Care Doctors (PHC) Compared with Our Study

Population	Authors and Year	Burnout Rates	Comparison to this study
Family Medicine Department Physicians, Military Hospital, Riyadh, Saudi Arabia	Selaihem 2013	High EE burnout in 53.5% High DP burnout in 38.9% Low PA burnout in 28,5% All three dimensions 2.78% Prevalence 75.7%	Lower score in EE Lower score in DP Lower score in low PA Lower score in all dimensions
Primary care Physicians, Asir, Saudi Arabia	Al-Sareai, Al-Khaldi, Mostafa, and Abdel-Fattah 2013	High EE burnout in 29.5% High DP burnout in 15.7% Low PA burnout in 19.7% All three dimensions 6.3% Prevalence 65.2%	Lower score in EE Lower score in DP Lower score in low PA Lower score in all dimensions Lower Prevalence
Qatar	Abdulla, Al-Qahtani & Al-Kuwari 2011	Prevalence 12.6%	Lower Prevalence
Yemini Doctors (Not all respondents were PHC doctors)	Al-Dubai and Krishna Published 2010	High EE burnout in 63.2%, High DP burnout in 19.4%, Low PA burnout in 33.0% All three dimensions 11.7% High EE burnout in 37.1 % High DP burnout in 21.0 % Low PA burnout in 63.2 % Prevalence 36.8%	Lower score in EE Lower score in DP Comparable score in low PA Lower score in all dimensions Lower score in EE Lower score in DP
Kuwaiti Primary Care Physicians	Yasmin <i>et al</i> 2011	High EE burnout in 54% High DP burnout in 30% Low PA burnout in 18% Prevalence 45.7%	Higher score in low PA Lower Prevalence Lower score in EE Lower score in DP
Canadian Family Doctors	Thommasen <i>et al</i> 2001	High EE burnout in 43 %, High DP burnout in 35.3%, High PA burnout in 32.0% All three dimensions 12% Prevalence 66%	Lower score in low PA Lower Prevalence Lower score in EE Lower score in DP Lower score in low PA Lower score in all dimensions Lower Prevalence
Europe, European Family Doctors	Solar <i>et al</i> Published 2008		

Our study didn't show any significant relation to nationalities. This conclusion could be related to the fact that Jeddah considered a lovely place for living because it is a multinational attractive city near to the two holy mosques.

Marital status

In reference to the association of burnout and marital status, some study found strong association with married physicians (Selaihem, 2013), while other study found strong association with single ones (Yasmin *et al.*, 2011), meanwhile our study didn't show any significant difference among married or single physicians. I think what makes a difference is how physicians spend their time and achieve their goals rather than being single or married.

Job satisfaction

Including our study, high burnout was found to be strongly associated with low job satisfaction in many studies (Selaihem, 2013) (Soler *et al.*, 2008). In this study the association was more apparent at the EE and DP subscales of MBI, reason behind dissatisfaction could be related to choosing the wrong career specialty or failure of promotion.

Certification

In alignment with Kuwaiti study (Yasmin *et al.*, 2011), general Practitioners who are not certified in family medicine were more prone to burnout. However the opposite was found in Riyadh military hospital family physicians in which board certified physicians who were very busy in the training program were more burned out.

In our study the junior doctors are fighting for getting acceptance in post graduate training program with clear uncertain future.

Salary

This study conclude that lower monthly income is significantly associated with the risk of high emotional exhaustion ($p=0.04$), this finding is supported by Yasmin group (Yasmin *et al.*, 2011). While in Asir the reverse were found (Al-Sareai, Al-Khalidi, Mostafa, and Abdel-Fattah, 2013).

The fact that the life in Jeddah city is relatively expensive may explain why income does matter.

Experience

Not surprisingly, our study demonstrate that lower years of experience is significantly associated with the risk of high depersonalization ($p=0.03$). Physicians who worked for a period of four years or less had doubled risk for depersonalization as compared to those who worked for > 10 years (OR = 1.99; 95% CI: (0.33-4.30). This finding was supported by other studies (Abdulla, Al-Qahtani & Al-Kuwari, 2011), (Selaihem, 2013). At the beginning of medical practice with low medical knowledge and skills, physicians may feel disappointed if they cannot manage difficult and challenging cases.

Working days

The relation of working in weekend to burnout varies at different MBI subscales, in this study it was associated with low personal accomplishment but not significantly associated with emotional exhaustion. oppositely in other study it was reported that Physicians who had more working days were less likely to report emotional exhaustion. Al-Sareai, Al-Khalidi,

Mostafa, and Abdel-Fattah, 2013). The fact that physicians who works during weekends are compensated with work free days may explain why they are not emotionally exhausted with this regard.

Smoking

Similar to our study most of the reviewed studies prove that high burnout was found to be strongly associated with tobacco consumption (Selaihem, 2013), (Soler *et al.*, 2008). This study found that physicians who are smokers have 7-fold risk for personal accomplishment as compared to non smokers (OR = 7.09; 95% CI: (2.23-22.51).

Other Factors

Our study showed that physicians who do not know their job description were more likely to report a low level of personal accomplishment OR (4.42), and physicians who are having professional and private difficulties more likely to report high depersonalization OR (2.64), this finding were not reported in the reviewed studies. On the other hand high burnout was found to be strongly associated with expressed intention to change job in few studies (Selaihem, 2013), (Soler *et al.*, 2008), this association was not shared by our study.

CONCLUSION

Burnout is quite prevalent among family medicine physicians working at Family Medicine Department in King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.

The picture was very alarming. Very high percentage of the physician (83%) are suffering from burnout in at least one dimension of the MBI subscales, three quarters are emotionally exhausted, half are depersonalized, and about a third have low feeling of self accomplishment. Physician satisfaction is crucial to ensure productivity and enhance recruitment and retention of staff.

Burned out physicians may chose to cope, to resign, or to change career. The impact of these on the department health service is tremendous and strategic planning have to be implemented to face this situation.

High burnout was found to be strongly associated with several of the variables under study which are low job satisfaction, smoking, lower years of experience, lower monthly income, non-certification in family medicine, professional and private difficulties, working during weekends and lack of knowledge about job description.

Recommendation

Based on the current study, we can recommend the following:

- Development of Periodic (annually/with recruitment) screening systems to recognize early signs of burnout, impairment and distress of PHC physicians by using MBI questionnaire.
- Self-care of the doctor's must be high on the list of priorities of professional training and CME.
- It is recommended to raise the awareness of the burnout syndrome, its development and its contributing factors among physicians to avoid them.
- Organizing lectures for physicians on Stress-Management techniques that teach them how to cope better with the stressful situations.

- Organizing practical lessons for physicians on Time-Management, understanding personal values, motives, and goals by religious & scientific point of view.
- Encourage supervisors or head of the departments to listen, support and allow physicians to participate in the decision making.
- Future researches are needed to explore the problem in depth, develop models to describe the phenomenon and to identify effective intervention strategies.

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How to cite this article:

Afnan Khalil et al (2022) 'Prevalence of Burnout Among Physicians Working In King Fahd Armed Forces Hospital (KFAFH) Primary Health Care Centers In Jeddah, 2013', *International Journal of Current Advanced Research*, 11(02), pp. 229-238. DOI: <http://dx.doi.org/10.24327/ijcar.2022.238.0051>
