Prevalence of Burnout Syndrome among Physicians Working in Al-Yarmouk Teaching Hospital / Baghdad 2022

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Abstract;

Background: The health care environment—with its packed work days, demanding pace, time pressures, and emotional intensity—can put physicians and other clinicians at high risk for burnout. Burnout is a long-term stress reaction marked by emotional exhaustion, depersonalization, and a lack of sense of personal accomplishment.

Objectives of the study: to identify the prevalence of burnout syndrome among physicians in AL-Yarmouk teaching hospital and to assess some factors associated with job burnout among physicians.

Method: A cross sectional study was conducted among 280 physicians working in Al-Yarmouk teaching hospital. Data collected during a period of 4 months from 1st March 2022 to 1st of July 2022. A self-administered questionnaires (using Maslach Burnout Inventory-Human Service Survey MBI-HSS) which was provided either directly to the doctors or online through application google form. Using SPSS (Statistical Package for Social Sciences) version 26 as a software for data analysis. Parametric data were presented in simple measures of frequency, percentage, mean, standard deviation. Categorical data presented as numbers and percentages.

The significance of difference of different percentages (qualitative data) were tested using Chi-square test (χ^2-test) with application of Fisher Exact test whenever applicable. Statistical significance was considered whenever the P value was equal or less than 0.05.

Results: Among 280 doctors included in this study. Female physicians were more than males (53.9 % vs. 46.1%). More than half of study participants (62.9%) were aged 30-39 years and 71.1% of them were married. Regarding smoking behavior, 11.8% of the participants were current smoker and ex-smoker and 18.6%, 13.9% had psychiatric history, suicidal thought (6.8%) and attempt (0.7%). The majority of participants experienced moderate levels of emotional exhaustion and depersonalization but low levels of personal accomplishment (36.4%,36.1%,96.1%). The overall burnout was 19.6 %. There were significant association between the prevalence of burnout and age of the physicians, alcohol consumption, specialty and the number of on call day per month, number of sick leaves, spouse support and leisure activity.

Conclusion: The majority of physicians were young (age group 30-39 years), females, married, live in urban area, nonsmoker and had no history of drugs use or psychiatric history. The burnout rate was less than quarter, 19.6 of physicians were suffer from burnout.

Key words: Burnout Syndrome, Physicians, Teaching Hospital.

Introduction

Burnout is a work-related stress syndrome resulting from chronic exposure to job stress. The symptoms of burnout include feelings of exhaustion, reduced productivity, and a negative attitude towards work. The concept of burnout was first introduced by psychoanalyst Freudenberger in the early 1970s. Since then, the term has been used to describe job-related stress in various healthcare settings, ranging from urban hospitals to global health environments. (1)

Maslach et al later defined burnout as a triad of emotional exhaustion, cynicism and depersonalization, resulting in reduced professional efficacy and personal accomplishment due to prolonged stress associated with medical practice. (2)

Burnout is a phenomenon that can affect individuals in any profession, but those in the medical field are almost twice as likely to experience it compared to the general population. This is due to various factors, including the high-stress nature of physicians' work, long working hours, heavy workload, and providing critical medical care, among others. (3) Additionally, a poorly functioning work environment, lack of social support, and poor relationships with colleagues (4) can exacerbate burnout symptoms and lead to reduced job satisfaction, lower quality of care, decreased patient satisfaction, higher physician turnover rates, and increased risk of medical errors and malpractice. (5) Some studies have even found an overlap between symptoms of post-traumatic stress disorder and burnout, as well as increased risk of mental and physical health issues such as musculoskeletal complaints and cardiovascular illnesses, which can result in costly malpractice suits for caregivers and hospitals.(6)

Burnout syndrome is a prevalent and growing concern globally among physicians, with a significant impact on the occupational field. (7) Although the prevalence of burnout may differ across various medical specialties, it affects clinicians across all

fields. Physicians working in front-line specialties, such as emergency medicine, tend to have higher rates of burnout.[8] Furthermore, the prevalence of burnout may be higher among healthcare professionals (HCP) in Arab countries due to weak or overburdened health systems and financing models, as well as rapid changes in disease patterns and population health status. [9]

The current study was conducted, to identify the prevalence of burnout syndrome among physicians in Al-Yarmouk teaching hospital and to assess some factors associated with job burnout among physicians.

Subjects and method

This was an analytical cross-sectional, data collection was over a period of four months, from 1st of March to 1st of July 2022. The study was carried out at Al-Yarmouk Teaching Hospital among physicians.The study population consisted of 925 physicians, including 220 specialists, 615 senior residents in various specialties, and 90 junior residents of different age groups and specialties. The study sample included specialist doctors, senior residents, and junior residents in various branches of the hospital, such as internal medicine, general surgery, obstetrics and gynecology, pediatrics, nephrology, neurosurgery, urology, orthopedics, ENT surgery, ophthalmology, dermatology, psychiatry, radiology and ultrasound, anesthesia, rheumatology, emergency medicine, and cardiovascular surgery. An online sample size calculator [10] was used to calculate the sample size with a 95% confidence level, 5% margin of error, population proportion of 50%, and total population of 925. Accordingly, the sample size was determined to be 280 physicians. The study enrolled physicians who were available during the study period and agreed to participate.

For data collection, self-administered questionnaires were used, which included the Maslach Burnout Inventory-Human Service Survey (MBI-HSS). [11] The questionnaires were distributed to physicians mostly by hand and collected either immediately after being filled out or at the end of the official working day or the following day, as many physicians were busy. Additionally, some questionnaires were distributed online using the Google Forms application and sent to physicians through the hospital's notification group to ensure the completion of the sample size.

The questionnaire is divided into three parts:

The first part: is the Demographic Section, which gathers data on participants' age, gender, marital status, number of children, address, smoking or alcohol intake, use of drugs, and any psychiatric history, as well as any history of suicidal thoughts or attempts.

The second part :of the questionnaire focuses on job characteristics and includes 10 items: number of years working as a doctor, specialty, number of working hours per week, whether the participant is a junior resident, senior resident, or specialist, number of call days per month, number of continuous working hours during each on-call day, whether they give their shift work to another doctor for a price, number of working nights per month, number of working weekends per month, and number of sick leaves in the past year.

The third part: of the Burnout Syndrome assessment utilizes a 22-question questionnaire known as the Maslach Burnout Inventory (MBI). The questionnaire is in English since medicine is practiced in English in Iraq. This assessment measures three subscales of Burnout Syndrome, namely Emotional Exhaustion (EE), Depersonalization (Cynicism) (DP), and Personal Accomplishment (PA).

1. **The Emotional Exhaustion (EE)** subscale refers to the feeling of being emotionally drained and exhausted by one's job. This subscale includes 9 items in the Maslach Burnout Inventory questionnaire.
    - I feel emotionally exhausted because of my work
    - I feel used up at the end of a working day
    - I feel tired as soon as I get up in the morning and see a new working day stretched out in front of me
    - Working with people the whole day is stressful for me
    - I feel burned out because of my work
    - I feel frustrated (Depressed) by my work
    - I get the feeling that I work too hard
    - Being in direct contact with people at work is too stressful
    - I feel like at the end of the rope (Line)

2.Depersonalization DP (cynicism): deals with self-stem and behavior towards recipient of care. It includes 5 items:

- I get the feeling that I treat patients impersonally, as if they were objects
- I have become more callous (Stiff) to people since I have started doing this job
- I'm afraid that my work makes me emotionally harder
- I'm not really interested in what happen to patients
- I have the feeling that patients blame me for some of their problems

3.Personal accomplishment (PA): This dimension comprises 8 specific items/questions in the questionnaire.

- I can easily understand patient feelings
- I deal with patients' problems effectively
- I feel that I influence other people positively through my work
- I feel full of energy
- I find it easy to build a relaxed atmosphere in my working environment
- I feel stimulated when I been working closely with my patients
- I have achieved many rewarding objectives in my work
- In my work I am very relaxed when dealing with emotional problems

The form also included three questions examining protective factors against job dissatisfaction and burnout, e.g., stress relief factors: (1) spouse support, (2) social support from colleagues, (3) leisure activities/free time.

Scores and Cutoff of MBI-HSS:

For the 3 subscales of the 22 items of MBI a 7-point Likert-type rating scale is used. The frequency scale is labelled at each point, ranging from 0 (Never)to 6(Every day). The maximum score of the total burnout scale is 132. The Cut off for MBI-HSS subscales and for total indicator of burnout score is shown below

Overall score for emotional exhaustion (EE) (statement no. 1_9),

Emotional exhaustion	**EE ≤ 17**	**EE 18 – 29**	**EE ≥ 30**
	Low level	**Moderate level**	**High level**

Overall score for depersonalization / loss of empathy (DP) (statement no.10_14)

Depersonalization	**DP ≤ 5**	**DP 6 – 11**	**DP ≥ 12**
	Low level	**Moderate level**	**High level**

Overall score personal accomplishment assessment (PA) (statement no.15_22)

Personal accomplishment assessment	**PA ≤ 33**	**PA 34 – 39**	**PA ≥ 40**
	Low level	**Moderate level**	**High level**

High scores on the emotional exhaustion (EE) and depersonalization subscales and low scores on the personal accomplishment subscale are indicative of a high level of burnout. A moderate level of burnout is reflected in moderate scores on the 3 subscales.A low level of burnout is indicated by low scores on the emotional exhaustion and depersonalization subscales and higher scores on the personal accomplishment subscale.The researcher proposal was fully discussed and approved by the ethical and Scientific Comity of Iraqi Board of Family Medicine. The agreement of health authority in included hospital were taken before starting data collection. A verbal consent was taken from each participant prior to give him the questionnaire after short explanation of study objectives, and assuring the confidentiality of responses. The questionnaire forms were anonymous.Using SPSS (Statistical Package for Social Sciences) version 26 as a software for data analysis. Parametric data were presented in simple measures of frequency, percentage, mean, standard deviation. Categorical data presented as numbers and percentages.The significance of difference of different percentages (qualitative data) were tested using Chi-square test (χ^2-test) with application of Fisher Exact test whenever applicable.Statistical significance was considered whenever the P value was equal or less than 0.05.

Results

Among 280 doctors included in this study. Female physicians were more than males (53.9 % vs. 46.1%). More than half of study participants (62.9%) were aged 30-39 years and 71.1% of them were married. Regarding smoking behavior, 11.8% of the participants were current smoker and ex-smoker. Alcohol consumption (18.6%). 13.9% had psychiatric history, suicidal thought (6.8%) and attempt (0.7%) as shown in table 1.

Table 1: General characteristics of physicians (n=280)

Variable	No.	%
Age mean±SD (33.4±6.5 years)		
<30 years	62	22.1
30-39 years	176	62.9
40-49 years	29	10.4
≥50 years	13	4.6
Gender		
Male	129	46.1
Female	151	53.9
Marital status		
Single	80	28.6
Married	199	71.1
Divorced	1	0.3
Number of children mean±SD (1.2±1.2)		
No children	**115**	**41.1**
1-2 children	125	44.6
3-5 children	40	14.3
Residence		
Urban	273	97.5
Rural	7	2.5
Smoking		
Yes	33	11.8
No	247	88.2
Alcohol consumption		
Yes	52	18.6
No	228	81.4
Drugs history		
Yes	40	14.3
No	240	85.7
Psychiatric history		
Yes	39	13.9
No	241	86.1
Suicidal thought in recent 3 months		
Yes	19	6.8
No	261	93.2
Suicidal attempt		
Yes	2	0.7
No	278	99.3

More than half of study participants (61.8%) were working as doctor for 5-10 years and 13.2% of them were junior resident. Regarding number of working hours per week, 56.8% of the participants were working ≤48 hours. In addition, 56.8% of them had 1-10 on call days per month, and 61.8% had ≤12 hours of continuous work in each on call day. 33.6% had >5 shifts of working nights per month while 72.2% had ≤4 days of working weekend per month as shown in table 2.

Table 2: Job characteristics of physicians.

Variable	No.	%
Years of working as a doctor mean±SD (8.6±6.3 years)		
<5 years	52	18.6
5-10 years	173	61.8
>10 years	55	19.6
Specialty		
Junior resident	37	13.2
Family medicine	20	7.1
ENT	21	7.5
Dermatology	7	2.5
Psychiatry	7	2.5
Plastic Surgery	2	0.7
Anesthesia	20	7.1
Gynecology	30	10.7
General surgery	28	10.0
Internal medicine	27	9.6
Radiology	17	6.1
Orthopedic	18	6.4
Neuromedicine	7	2.5
Urology	12	4.3
Rheumatology	12	4.3
Pediatrics	6	2.1
Nephrology	1	0.3
Continue table 2		
Ophthalmology	4	1.4
Cardiothoracic surgery	2	0.7
Emergency medicine	2	0.7
Total	**280**	**100.0**
Variable	No.	%
Number of working hours per week mean±SD (47.7±24.9 hours)		
≤48 hours	159	56.8
49-96 hours	113	40.4
>96 hours	8	2.8
Job description		

Basic trainee	37	13.2
Higher trainee	175	62.5
Specialist	68	24.3
Number of on call day per month mean±SD (7.5±6 call days)		
No	39	13.9
1-10 call days	159	56.8
>10 call days	82	29.3
Hours of continuous work in each on call day mean±SD (13.4±7.5 hours)		
≤12 hours	173	61.8
13-24 hours	94	33.6
>24 hours	13	4.6
Do you give yours shift work to price?		
Yes	42	15.0
No	238	85.0
Number of working nights per month mean±SD (4.5±6.4 shifts)		
No	82	29.3
1-5 shifts	104	37.1
>5 shifts	94	33.6
Number of working weekend per month mean±SD (2.7±2.3 days)		
No	48	17.1
≤4 days	202	72.2
>4 days	30	10.7
Number of sick leaves in the past one year mean±SD (0.8±1.5 days)		
No	175	62.5
1-2 days	77	27.5
≥3 days	28	10.0
Total	**280**	**100.0**

More than half of study participants (60.7%) were had not spouse support and 76.1% of them were had social support from colleagues. Regarding Leisure activity (time free from the demands of work or duty, when one can rest, enjoy hobbies or sport) 85.4% answered (Yes) as shown in table 3.

Table 3: Social characteristics of physicians.

Variable	No.	%
Spouse support		
Yes	110	39.3
No	170	60.7
Social support from colleagues		
Yes	213	76.1
No	67	23.9
Leisure activity (time free from the demands of work or duty, when one can rest, enjoy hobbies or sport)		
Yes	239	85.4
No	41	14.6
Total	**280**	**100.0**

The majority of participants experienced moderate levels of (EE) and (DP) but low levels of (PA) (36.4%,36.1%,96.1%). The overall burnout was 19.6 %, as shown in table 4. There were significant association between the prevalence of burnout and age of the physicians, alcohol consumption, specialty and the no. of on call day per month, no. of sick leaves, spouse support and leisure activity as shown in table 5,6 and 7.

Table 4: The Maslach Burnout Inventory of physicians.

Variable	No.	%
Emotional exhaustion		
Low level	77	27.5
Moderate level	102	36.4
High level	101	36.1
Total	280	100.0
De-personalization/loss of empathy		
Low level	96	34.3
Moderate level	101	36.1
High level	83	29.6
Total	280	100.0
Personal accomplishment		
Low level	269	96.1
Moderate level	3	1.1
High level	8	2.9
Total	280	100.0
Burnout		
Yes	55	19.6
No	225	80.4

Table 5: Distribution of general characteristics according to burnout prevalence.

Variable	Burnout				P
	Yes (N=55)		No (N=225)		
	no.	%	no.	%	
Age					**0.05***S
<30 years	13	21	49	79	
30-39 years	33	18.8	143	81.2	
40-49 years	3	10.3	26	89.7	
≥50 years	6	46.1	7	53.9	
Gender					0.9*NS
Male	25	19.4	104	80.6	
Female	30	19.9	121	80.1	
Marital status					0.8**NS
Single	17	21.2	63	78.8	
Married	38	19.1	161	80.9	
Divorced	0	-	1	100	
Number of children					0.7*NS
No children	21	18.3	94	81.7	
1-2 children	27	21.6	98	78.4	
3-5 children	7	17.5	33	82.5	
Residence					0.7**NS
Urban	54	19.8	219	80.2	
Rural	1	14.3	6	85.7	
Smoking					0.8*NS
Yes	7	21.2	26	78.8	
No	48	19.4	199	80.6	
Alcohol consumption					0.02*S
Yes	16	30.8	36	69.2	
No	39	17.1	189	82.9	
Drugs history					0.09*NS
Yes	4	10	36	90	
No	51	21.2	189	78.8	
Psychiatric history					0.4*NS
Yes	6	15.4	33	84.6	
No	49	20.3	192	79.7	
Suicidal thought in recent 3 months					0.3**NS
Yes	2	10.5	17	89.5	
No	53	20.3	208	79.7	
Suicidal attempt					0.27**NS
Yes	1	50	1	50	
No	54	19.4	224	80.6	

*** Chi square test, **Fishers exact test, S=Significant, NS=Not significant.**

Table 6: Distribution of job characteristics according to burnout prevalence.

Variable	Burnout				P
	Yes (N=55)		No (N=225)		
	no.	%	no.	%	
Years of working as a doctor					0.9*[NS]
<5 years	10	19.2	42	80.8	
5-10 years	35	20.2	138	79.8	
>10 years	10	18.2	45	81.8	
Specialty					**<0.001****[S]
Junior resident	8	21.6	29	78.4	
Family medicine	1	5	19	95	
ENT	3	14.3	18	85.7	
Dermatology	0	-	7	100	
Psychiatry	1	14.3	6	85.7	
Plastic Surgery	0	-	2	100	
Anesthesia	2	10	18	90	
Gynecology	17	56.7	13	43.3	
General surgery	8	28.6	20	71.4	
Internal medicine	1	3.7	26	96.3	
Radiology	3	17.6	14	82.4	
Orthopedic	5	27.8	13	72.2	
Neuromedicine	3	42.9	4	57.1	
Urology	2	16.4	10	83.3	
Rheumatology	0	-	12	100	
Pediatrics	**0**	**-**	**6**	**100**	
Nephrology	1	100	0	-	
Ophthalmology	0	-	4	100	
Cardiothoracic surgery	0	-	2	100	
Emergency medicine	0	-	2	100	
Number of working hours per week					0.6*[NS]
≤48 hours	29	18.2	130	81.8	
49-96 hours	25	22.1	88	77.9	
>96 hours	1	12.5	7	87.5	
Job description					0.9*[NS]
Basic trainee	8	21.6	29	78.4	
Higher trainee	33	18.9	142	81.1	
Specialist	14	20.6	54	79.4	
Number of on call day per month					**0.02***[S]
No	5	12.8	34	87.2	
1-10 days	26	16.4	133	83.6	
>10 days	24	29.3	58	70.7	
Hours of continuous work in each on call day					0.4*[NS]
≤12 hours	33	19.1	140	80.9	
13-24 hours	17	18.1	77	81.9	
>24 hours	5	38.5	8	61.5	

Do you give yours shift work to price?					0.9*NS
Yes	8	19	34	81	
No	47	19.7	191	80.3	
Number of working nights per month82.					0.1*NS
No	14	17.1	68	82.9	
1-5 shifts	16	15.4	88	84.6	
>5 shifts	25	26.6	69	73.4	
Number of working weekend per month					0.2*NS
No	6	12.5	42	87.5	
≤4 days	41	20.3	161	79.7	
>4 days	8	26.7	22	73.3	
Number of sick leaves in the past one year					**0.03****S
Mean±SD (days)	1.16±2.3		0.7±1.1		

**** Chi square test, **Independent sample t-test, S=Significant, NS=Not significant.***

Table 7: Distribution of social characteristics according to burnout prevalence.

Variable	Burnout				P
	Yes (N=55)		No (N=225)		
	no.	%	no.	%	
Spouse support					**0.008***S
Yes	13	11.9	97	88.1	
No	42	24.7	128	75.3	
Social support from colleagues					0.17*NS
Yes	38	17.8	175	82.2	
No	17	25.4	50	74.6	
Leisure activity					**0.001***S
Yes	39	16.3	200	83.7	
No	16	39	25	61	

**** Chi square test, S=Significant, NS=Not significant.***

Discussion:

Burnout syndrome is a psychosocial disorder that impacts individuals in high-demand work environments who lack the necessary resources to cope effectively. This condition is particularly prevalent among those who provide interpersonal care, such as healthcare professionals, especially physicians. Chronic workplace stress can lead to the development of emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment[12].

The study found that the majority of participants reported a moderate level of both (EE) and (DP) in relation to burnout syndrome. However, the percentage of participants reporting moderate levels of EE was slightly higher than those reporting moderate levels of DP. This may be because emotions are easily triggered and more visible, compared to other aspects as it is an outermost part of the 'Affect' in psychology[13]. In terms of (PA), the highest percentage of participants reported a low level.

According to a 2018 study conducted in Iraq assessing the prevalence of emotional exhaustion (EE) among 576 medical doctors in twenty large general hospitals and medical centers in Iraq, approximately two-thirds (60%) of the participants experienced a high level of emotional exhaustion [14] which is higher than this study. However, a lesser level of EE seen in a study conducted among primary healthcare physicians in the Riyadh region in 2022

found that only 21% of physicians reported high levels of EE [15], this difference may be due to different sample size, setting and healthcare system .

The current study reported a higher rate of DP, than a study conducted in 2019 among 296 physicians from all health sectors and hospitals in Kerbala Directorate, which found a depersonalization rate of 14.3%[16]. However, the DP rate in the current study is much lower than the rate reported in a study conducted among 310 medical residents and specialists in three university hospitals in Baghdad, which found a rate of 78.7% for high depersonalization[17], again difference may be due to different sample size, specialty and setting.

A systematic review investigating the prevalence and factors associated with burnout among healthcare professionals in Arab countries in 2017 found that two studies conducted in Lebanon reported varying estimates of high (EE) among doctors, with one study reporting a high prevalence (67.7%) and the other reporting a lower prevalence (23.2%). A study conducted on doctors in Egypt also reported a high prevalence of high EE (62.2%). In Saudi Arabia, the prevalence of high burnout varied across doctors, nurses, and physiotherapists, with EE rates ranging from 29.5% to 54.0% [9]. In contrast, a 2019 study conducted in Syria during the Syrian crisis found that a high percentage of participants had high levels of burnout, with 77.9% reporting high levels of EE, 54.6% reporting high levels of (DP), and 13.7% for (PA). Additionally, 93.75% of participants had a high level in at least one of these three dimensions [18], and this will highlight the effect of the crisis on burnout subscale levels .

In a 2018 study conducted in the United Arab Emirates among 302 Medical residents from different specialties at several health-care centers, it was found that 75.5% of medical residents reported moderate-to-high levels of (EE), 84% reported high levels of (DP), and 74% reported low levels of (PA). Overall, 70% of medical residents were considered to be experiencing at least one symptom of burnout, based on a high score in either EE or DP [19], this higher level may be due to that UAE have national residents, and the nonnational (expatriates) who are not immune to the societal, environmental, and financial burdens.

The current study found a burnout prevalence rate of 19.6%. Numerous studies have investigated the prevalence of burnout among physicians, and the findings have been conflicting. For instance, a study conducted in Australia among 168 doctors engaged in AHHC through the National Home Doctor Service (NHDS) reported a similar result of 19.8%[20], which is similar to the findings of a previous study conducted in among physicians and nursing staff working in the emergency hospital of Tanta University Egypt where a quarter of healthcare professionals had experienced high levels of burnout [21], while in a systematic review of burnout among healthcare workers in the Middle East, Chemali et al. (2019) describe the region as a "complex healthcare environment." The authors attribute the high prevalence of burnout (40%-60% in their review) to harsh work conditions, demanding work schedules/stress, and exposure to violence and conflict[22]. other studies reported high prevalence as a study conducted in China reported physician burnout rates ranging from 66.5% to 87.8% [23]. Additionally, a study conducted in Kuwait in 2022 among surgical specialists found very high levels of burnout (>75%) [24].

A systematic review conducted in 2016 found that 17.3% of health professionals working in palliative care experienced burnout [25]. The variation in results across studies could be due to differences in definitions, assessment tools, cutoff scores, sample sizes, setting, as well as variations in stressors across specialties, healthcare systems, resources, patient attitudes, and education levels in different countries, cultural and religious factors. Therefore, it can be difficult to directly compare burnout rates between studies.

Conversely, studies in Qatar (11.89%) [26] and Dubai (13.7%)[27], reported lower burnout rates, which could be due to better organization, stable working conditions, less stress on physicians, and a smaller number of clients.

The prevalence of overall burnout did not differ significantly based on gender and marital status in the current study. However, sub-group analyses in the Eastern Mediterranean region showed that male physicians had a higher prevalence of burnout compared to females in Pakistan and Egypt [28]. In contrast, a previous study conducted in Qatar in 2011 found a significant relationship between gender and burnout, with females experiencing higher rates of burnout, and recognized that the female gender is a determinant for developing burnout syndrome among various healthcare workers in Qatar [29] .

In a Turkish study show that female gender was associated with higher EE levels and shows that the differences in burnout between genders may be linked to the differing responsibilities assumed by women outside their professional lives compared to men, with the extent of this variation dependent on the prevailing social structures [30] . Additionally, this study did not find a significant relationship between marital status and burnout, which aligns with the results of a study conducted among 205 medical residents in a Malaysian general hospital. in 2013 [31].

Moreover, the results of the present study indicated that there was a significant association

between burnout and the age of physicians, a bimodal association of burnout seen, this may be due to that those aged less than 30 years, were more susceptible to burnout due to factors such as higher stress levels, greater pressure, insufficient training, lower financial income, and limited experience in dealing with patient, work, and organizational issues, for older workers, however, adaptation to stressors tends to decline, new forms of work–family conflicts may appear increasing the risk of burnout. This finding is inconsistent with the results of a previous study conducted in 2015 among secondary care doctors in the Ministry of Health in the Kingdom of Bahrain which reported that the age group of 30-40 had the highest level of burnout [32]. According to Maslach, age is the demographic variable most consistently associated with burnout, with younger physicians being at a higher risk of burnout [33]. Additionally, a study conducted in Iran found no significant difference in burnout with age, specialties, residency years, and marital status[34].

This study and a Swedish study of healthcare professionals[35] reported significant association between consuming alcohol and burnout, which was identified as an independent risk factor for burnout. This supports the notion that alcohol abuse is associated with higher levels of burnout. However, no significant association was found between suicidal thoughts/attempts and burnout in this study, the association was inconsistent with a previous study conducted in Hong Kong among public doctors where 10% of those with suicidal thoughts had high burnout [36], although same percent of suicidal thoughts found in this study , the difference may be due to sampling technique and setting taken, were one thousand doctors were randomly sampled from the Hong Kong Public Doctors' Association registry.

The results of this study indicate that job characteristics are significant factors in the development of burnout. Specifically, there was a significant association found between burnout and the specialty of nephrology, gynecology, neuromedicine, orthopedic and general surgery. Emergency medicine physicians have the highest rates of burnout among all physician specialties, as reported in Medscape's 2022 Physician Burnout and Depression survey, and more than 50% of Internal medicine, Pediatrics , Obstetrics, Infectious diseases, Family medicine, Neurology, Critical care, Anesthesiology, Oncology, General surgery[37] . A possible explanation for this association is the emergency nature of these specialties, which often involve dealing with life-threatening situations, complex cases, heavy patient loads, and an overload of shifts. Additionally, these physicians may experience sleep disturbance and have less time to spend with their families.

According to a 2022 study conducted in Kuwait on burnout prevalence among surgical specialists, high levels of burnout were observed among specialists in neurosurgery, general surgery, urology, and orthopedics, whereas ophthalmology and ENT surgeons reported relatively lower levels of burnout [24]. Additionally, the study found that the number of on-call days per month was significantly associated with burnout again this may be due to the high levels of stress, heavy workloads during their call, and decision-making responsibilities, being away from their families most of the time and low income, this was consistent with findings from a previous study on public doctors in Hong Kong[36].

In addition, the present study showed a significant association between lack of spouse support, leisure activity and burnout among physicians. Social support is an important external resource that can prevent and reduce stress, alleviating occupational burnout. Previous studies have shown that social support from different sources is differentially related to burnout dimensions [26]. For instance, a study conducted in China found that occupational burnout is common in Chinese physicians, and that role stress and social support play important roles in occupational burnout [38].

Conclusion:

1- Burnout syndrome was prevalent among one fifth of physicians working at AL-Yarmouk teaching hospital.
2- The majority of participants experienced moderate levels of (EE) and (DP) but low levels of (PA). EE was the most common type of burnout.
3- Age and alcohol consumption were significantly related to burnout, while gender, marital status, psychiatric history and smoking behavior showed no association with burnout.
4- The study found significant links between job characteristics (specialties, the number of on-call days per month and sick leaves) and burnout.
5- Lack of spousal support and leisure activities were significantly associated with burnout among physicians in relation to their social characteristics.

Recommendations:

1- Given the prevalence of burnout and its negative impact on physicians' well-being, doctor-patient relationships, and quality of care, it is unfortunate that burnout is often overlooked and not taken seriously. Therefore, it is important that physicians and organizations to conduct periodic surveys to assess burnout levels.

2- Departmental and hospital managers can play a crucial role in addressing the causes of burnout and implementing lasting changes to reduce burnout and enhance physician engagement.
3- To address burnout, implementing a Physician Well-Being Initiative that includes: listening to physicians' concerns related to burnout through research and meetings; designing and implementing interventions; creating a supporting team; making changes in work schedules and environments; facilitating sick leave when needed; and promoting leisure activities by providing time for sports and hobbies.
4- Developing educational intervention programs to teach physicians coping strategies for managing burnout and job challenges is essential.
5- Further research is needed to thoroughly investigate the causes of burnout and develop effective intervention strategies.

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