

Clinicians Burnout and Career Satisfaction across The Major Specialties in Zagazig University Hospitals

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ABSTRACT

Background: Burnout is recognized as a prevalent problem in contemporary society, particularly in the realm of occupational stress, and it is garnering global attention. It is identified by a sense of depleted energy, cynicism towards one's job, and diminished professional effectiveness. The level of career satisfaction serves as a crucial indicator of the quality of the healthcare system. **Objective:** To evaluate the correlation between clinician burnout and career satisfaction in Zagazig University Hospitals, aiming to contribute insights for the enhancement of their overall well-being in future endeavors. **Subjects and Methods:** A cross-sectional study was conducted on 246 clinicians representing various major specialties at Zagazig University Hospitals from July to November 2023. The used structured questionnaire comprised three parts: 1) Personal and professional characteristics, 2) Maslach Burnout Inventory (MBI) questionnaire, and 3) Career Satisfaction assessment questionnaire.

Results: Clinicians exhibited moderate levels of emotional exhaustion (EE), depersonalization (DP), personal accomplishment (PA), and average career satisfaction with percentages of 45.6%, 54.1%, 40.7%, and 43.5%, respectively. Pediatricians demonstrated a significantly higher risk of EE (30.02 ± 7.1), whereas internists were notably at a higher risk of low PA (34.3 ± 10). A significant weak negative correlation was observed between emotional exhaustion and career satisfaction ($r = -0.133$). **Conclusions:** A moderate level of burnout syndrome was identified among clinicians in Zagazig University Hospitals. Pediatricians faced a higher risk of emotional exhaustion (EE), while internists were more susceptible to low personal accomplishment (PA). Additionally, an overall average level of career satisfaction and a negative correlation between EE and career satisfaction were observed.

Keywords: Clinicians Burnout; Emotional Exhaustion; Depersonalization; Personal Accomplishment; Career Satisfaction.

INTRODUCTION

Burnout is recognized as a psychological syndrome consisting of three main categories: overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment [1]. In 2019, it was included as a morbidity in the International Classification of Diseases for Mortality and Morbidity Statistics, eleventh revision [2]. Globally, the prevalence of burnout among practicing physicians is rapidly increasing due to various factors, such as the growing burden on the healthcare system as a result of demographic shifts, increased life expectancy, and the emergence of lifestyle diseases. Other contributing factors include heightened workload, increased specialization, an unhealthy work environment, insufficient organizational support, and added administrative duties associated with managed care [3-6]. In the USA, four in 10 clinicians report experiencing at least one symptom of burnout [7]. A recent review of low- and middle-income countries found the prevalence of burnout among physicians ranging from 2.5% to 87.9% [8].

Burnout has numerous negative consequences, including loss of career satisfaction, high turnover rates, depressive disorders, poor job performance, increased absenteeism, and a decline in the quality of medical care, which can impact patient satisfaction, lead to more medical errors, and result in increased lawsuits [9-11].

Physician job satisfaction serves as a crucial quality indicator for the performance of any healthcare system, defined as positive and helpful emotional feelings in a person after completing a task [12].

The job satisfaction and burnout of physicians significantly influence the well-being of healthcare professionals and the quality of healthcare they provide. These aspects of physician well-being are not uniform across the profession and are largely affected by socio-demographic factors [13]. High levels of career satisfaction contribute to reducing the occurrence of burnout, improving relationships with service users, fostering higher trust in the organization, enhancing cohesion among coworkers, and ensuring compliance with the principles of high-quality care delivery [14].

Little is known about clinician burnout in Egypt, and most previous studies on clinician burnout and career satisfaction have focused on specific specialties or departments rather than examining potential differences between them. Therefore, our current study is designed to investigate the relationship between career satisfaction and burnout among clinicians across various specialties at Zagazig University Hospitals, with the ultimate goal of contributing to the future promotion of clinician health. The specific objectives include: 1) Identifying the presence of clinician burnout and measuring its levels across major specialties in Zagazig University Hospitals; 2) Assessing the relationship between levels of burnout and career satisfaction; and 3) Detecting the main factors influencing burnout levels and career satisfaction.

SUBJECT AND METHODS

Study design: A cross-sectional study was conducted from July to November 2023 at the four major departments of Zagazig University Hospitals, including

Internal Medicine, Gynecology and Obstetrics, Pediatrics, and General Surgery. These departments were selected due to their representation of the primary bulk of physicians in Zagazig University Hospitals, where they regularly interact with stressed patients having diverse medical needs, exposing them to a high risk of burnout.

Sample Size:

The sample size, determined using Open Epi-Info 7.0, considered the total number of registered clinicians at Zagazig University Hospitals in 2022 (2510 clinicians). With an expected prevalence of 23% for the high level of depersonalization subscale in burnout syndrome among physicians [12], a confidence interval of 95%, and a 5% margin of error, the calculated sample size was 246 clinicians. Stratified random sampling was employed, with clinicians divided by specialty into four major departments (48 obstetricians–gynecologists, 54 pediatricians, 66 surgeons, and 78 internists).

Tools: The questionnaire, developed through a comprehensive literature review of validated questionnaires [12,15,16, 17], comprised three main parts.

The first part covered personal and professional characteristics, such as age, gender, marital status, housing ownership, hobbies, children, academic rank, experience years, work-home interference, economic satisfaction, night shifts, on-call duty, ability to choose days off, and number of vacations per year.

The second part included the Maslach Burnout Inventory (MBI) questionnaire for health professionals, a gold standard for assessing burnout [15]. It consisted of a 22-item questionnaire measuring three main aspects of burnout syndrome: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA). Responses were recorded on a seven-point Likert scale. High scores on EE and DP, along with low scores on PA, indicated a high degree of burnout, while the opposite indicated a low degree of burnout. Moderate burnout represented average scores on all three subscales (Table 1).

Cut-off values for MBI subscales were adapted from a similar study on physicians in Saudi Arabia [12].

Table 1: Cut-off values for medical professional MBI subscales

MBI Subscales	MBI classification		
	Low	Moderate	High
Emotional Exhaustion (EE)	≤18	19-26	≥27
Depersonalization (DP)	≤5	6-9	≥10
Personal Accomplishment (PA)	≤33	34-39	≥40

Third Part:

The job satisfaction questionnaire comprised seven main categories: General working conditions (four items), pay and promotion potential (five items), work relationships (three items), use of skills and

abilities (three items), work activities (two items), work burden (four items), and supervision (three items) (Table 2). Responses were measured on a five-point Likert scale ranging from extremely dissatisfied (1) to extremely satisfied (5), based on a similar previous study conducted at Tanta University Hospitals [16].

Table 2: Cut-off values for physician career satisfaction classification

	Dissatisfied	Average	Satisfied
Career satisfaction classification	<33.3	33.3-66.7	>66.7

Data Collection: Data were collected through interviews and clinicians were asked to fill the pre-designed self-administered questionnaire in targeted departments at a convenient time that did not interfere with patient care. The questionnaire took approximately ten minutes to complete. Validity was assessed by six professors of Community Medicine at Zagazig University, and internal consistency, measured by Cronbach’s alpha, for each subscale of MBI and career satisfaction questionnaire, ranged from acceptable to desired (0.77, 0.73, 0.82, and 0.764, respectively).

Pilot Study:

A pilot study involving 10% of the sample size was conducted to assess the simplicity, clarity of questions, face validity, time needed for completion, and identify potential obstacles. The results of the pilot study were not included in the main analysis.

Ethical considerations:

The Institutional Review Board (IRB) of the Faculty of Medicine at Zagazig University (ZU.IRB#11147/20-9-2023) approved the proposal. The Declaration of Helsinki and the code of ethics of the World Medical Association were followed during the research on humans. Informed consent was obtained from all participants after explaining the study's goals, and data confidentiality was assured.

Data Management: SPSS version 28 was conducted for data management and statistical analysis (IBM, Armonk, New York, United States). Qualitative data were described as frequencies and percentages, while quantitative data were presented as mean and standard deviation. For qualitative data analysis, the chi-square test was used to compare independent categorical variables. For quantitative data analysis, the Student t-test was employed for comparisons between two means, and the analysis of variance (ANOVA) test was used for comparisons between more than two means of independent normally distributed data and post hoc test LSD (Least Significant Difference was used for comparison in-between groups. Pearson correlation was used to assess the strength and direction of correlation between two continuous normally distributed variables. A p-value less than 0.05 was considered statistically significant.

expressed dissatisfaction with their income (74.4%), were not able to choose their day off (54.9%), worked more than two night shifts per week (79.3%), were on call duty (75.2%), experienced work-home interference (73.2%), and had less than two vacations per year (69.5%). No statistically significant differences were observed among physicians in the four major specialties regarding these personal and professional characteristics.

RESULTS

The personal and professional characteristics of participating clinicians are presented in Table 3. A majority fell within the age range of 30-39 years (37%), were female (56.5%), married (76.4%), had children (69.5%), resided in rented houses (81.3%), did not engage in hobbies (73.2%), held the position of assistant lecturer (31.7%), had ≤10 years of experience (52%),

Table 3: Personal and professional characteristics of the studied clinicians across the major specialties in Zagazig University Hospitals (n=246)

Variables	Internal Medicine (n=78)	Pediatric (n=54)	Gynecology (n=48)	General surgery (n=66)	Total	χ^2	P-value	
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)			
Age groups:								
	≤29 years	30(41.7)	17(23.6)	8(11.1)	17(23.6)	72(29.3)	16.057	0.066
	30-39 years	30(32.9)	19(20.9)	17(18.7)	25(27.5)	91(37.0)		
	40 -49 years	15(28.8)	8(15.4)	15(28.8)	14(26.9)	52(21.1)		
	≥50 years	3(9.7)	10(32.2)	8(25.8)	10(32.2)	31(12.6)		
Gender	Females	48(34.5)	33(23.7)	29(20.9)	29(20.9)	139(56.5)	5.809	0.121
	Males	30(28.0)	21(19.6)	19(17.8)	37(34.6)	107(43.5)		
Marital status:	Not married	17(29.3)	12(20.7)	12(20.7)	17(29.3)	58(23.6)	0.421	0.936
	Married	61(32.4)	42(22.3)	36(19.1)	49(26.1)	188(76.4)		
Children:	No	18(24.0)	21(28.0)	16(21.3)	20(26.7)	75(30.5)	4.004	0.261
	Yes	60(35.1)	33(19.3)	32(18.7)	46(26.9)	171(69.5)		
Housing:	Rented	64(32.0)	47(23.5)	38(19.0)	51(25.5)	200 (81.3)	2.046	0.562
	Owned	14(30.4)	7(15.2)	10(21.7)	15(32.6)	46(18.7)		
Practice hobbies	No	54(30.0)	44(24.4)	35(19.4)	47(26.1)	180(73.2)	2.647	0.449
	Yes	24(36.4)	10(15.2)	13(19.7)	19(28.8)	66 (26.8)		
Academic rank:	Resident	14(25.9)	11(20.4)	13(24.1)	16(29.6)	54 (22.0)	18.566	0.099
	A. lecturer	22(28.2)	16(20.5)	16(20.5)	24(30.8)	78 (31.7)		
	Lecturer	25(50.0)	13(26.0)	3(6.0)	9(18.0)	50 (30.3)		
	A. professor	8(26.7)	7(23.3)	5(16.7)	10(33.3)	30 (12.2)		
	Professor	9(26.5)	7(20.6)	11(32.4)	7(20.6)	34 (13.8)		
Experience	≤10	44(34.4)	20(15.6)	24(18.8)	40(31.3)	128 (52.0)	10.168	0.117
	11-19	21(29.2)	24(33.3)	13(18.1)	14(19.4)	72 (29.3)		
	≥ 20	13(28.3)	10(21.7)	11(23.9)	12(26.1)	46 (18.7)		
Income satisfaction:	No	62(33.9)	41(22.4)	37(20.2)	43(23.5)	183 (74.4)	4.270	0.233
	Yes	16(25.4)	13(20.6)	11(17.5)	23(36.5)	63 (25.6)		
Choose day off :	No	43(28.1)	32(20.9)	33(21.6)	45(29.4)	153 (54.9)	3.738	0.291
	Yes	35(37.6)	22(23.7)	15(16.1)	21(22.6)	93 (45.1)		
>2 night shifts/week:	No	16(31.4)	10(19.6)	12(23.5)	13(25.5)	51 (20.7)	0.738	0.864
	Yes	62(31.8)	44(22.6)	36(18.5)	53(27.2)	195 (79.3)		
On call duty:	No	16(26.2)	20(32.8)	11(18.0)	14(23.0)	61 (24.8)	5.652	0.130
	Yes	62(33.5)	34(18.4)	37(20.0)	52(28.1)	185 (75.2)		
Work home interference:	No	20(30.3)	10(15.2)	14(21.2)	22(33.3)	66 (26.8)	3.512	0.319
	Yes	58(32.2)	44(24.4)	34(18.9)	44(24.4)	180 (73.2)		
Vacation/year:	< 2	55(32.2)	36(21.1)	35(20.5)	45(26.3)	171 (69.5)	0.561	0.905
	≥ 2	23(30.7)	18(24.0)	13(17.3)	21(28.0)	75 (30.5)		

χ^2 = Chi Square test.

Levels of Burnout and Career Satisfaction as shown in (Table 4):

The majority of participating clinicians exhibited overall moderate levels of burnout syndrome, as indicated by Maslach Burnout Inventory (MBI) subscales: emotional exhaustion (45.6%), depersonalization (54.1%), and personal accomplishment (40.7%). The mean scores for emotional exhaustion (EE) were significantly higher among pediatricians, while the sense of personal accomplishment (PA) was lower among internists and 59.7% of surgeons. Conversely, gynecologists and

obstetricians had the lowest mean scores for emotional exhaustion, and pediatricians had the highest mean scores for personal accomplishment.

However, no statistically significant difference was detected among clinicians in different specialties regarding depersonalization subscales. The majority of clinicians (43.5%) reported being averagely satisfied with their career, while 35.8% expressed satisfaction. A minority (20.7%) indicated dissatisfaction with their career. Internists emerged as the most satisfied group, with 45.5% expressing satisfaction with their career.

Table 4: Levels of burnout and career satisfaction among studied clinicians across the major specialties in Zagazig University Hospitals (n=246)

MBI scale	Internal Medicine (n=78)	Pediatric (n= 54)	Gynecology (n=48)	General Surgery (n=66)	Total	χ^2	P-value
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)		
Emotional exhaustion (EE)							
Low	10(27.8)	9(25.0)	7(19.4)	10(27.8)	36(14.6)	27.007	<0.001*
Moderate	23(20.5)	19(17.0)	30(26.8)	40(35.7)	112(45.6)		
High	45(45.9)	26(26.5)	11(11.2)	16(16.3)	98(39.8)		
Mean ±SD	28.04±5.6 α +	30.02±6.2 α +	23.1± 4.6 $\#$ \$+	25.7±5.1 $\#$ \$ α	26.9±5.4	F=15.9 94	<0.001*
Depersonalization (DP)							
Low	7(17.5)	11(27.5)	8(20.0)	14(35.0)	40(16.3)	6.133	0.408
Moderate	43(32.3)	29(21.8)	25(18.8)	36(27.1)	133(54.1)		
High	28(38.4)	14(19.2)	15(20.5)	16(21.9)	73(29.7)		
Mean ±SD	10.8±2.2	10.7±2.2	11.1±2.3	10.4±2.6	10.8±2.1	F=0.86 8	0.457
Personal Accomplishment (PA)							
Low	13(19.4)	5(7.5)	9(13.4)	40(59.7)	67(27.2)	56.943	<0.001*
Moderate	41(41.0)	26(26.0)	24(24.0)	9(9.0)	100(40.7)		
High	24(30.4)	23(29.1)	15 (19.0)	17(21.5)	79(32.1)		
Mean ±SD	34.3±6.9\$	38.4±7.8 $\#$ +	35.7±7.2	35.2±7.1\$	35.9±7.3	F =3.603	0.014 *
Career satisfaction							
Dissatisfied	16(31.4)	12(23.5)	9(17.6)	14(27.5)	51(20.7)	14.405	0.025*
Average	22(20.6)	26(24.3)	24(22.4)	35(32.7)	107(43.5)		
Satisfied	40(45.5)	16(18.2)	15(17.0)	17(1)	88 (35.8)		
Mean ±SD	66.8±13.4\$ α +	42.9±8.6 $\#$ α +	39.3±7.9 $\#$ \$+	53.5±10.7 $\#$ \$ α	53.6±10. 7	F =85.923	<0.001*

SD = Standard Deviation, χ^2 = Chi Square test, F =ANOVA test (Analysis of variance), * Significant difference

Significant with Internal Medicine

\$ Significant with Pediatric

α Significant with Gynecology and Obstetrics + Significant with General Surgery

**Career Satisfaction in Four Major Specialties:
Association Between Burnout Subscales, Career Satisfaction, and Personal Characteristics:**

Mean scores for emotional exhaustion and depersonalization were significantly higher among clinicians aged ≤ 29 years, while the mean career satisfaction score was significantly higher in clinicians

aged ≥ 50 years. The mean score for personal accomplishment was significantly lower among non-married individuals compared to married individuals. However, there was no statistically significant association between mean MBI subscales, career satisfaction, and gender, marital status, having children, house ownership, and practicing hobbies (Table 5).

Table 5: Association between burnout subscales, career satisfaction and personal characteristics of the studied clinicians (n=246)

Personal characteristics	Emotional exhaustion	Depersonalization	Personal Accomplishment	Career Satisfaction
	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD
Age groups:				
≤ 29 years (n= 72)	29.4 \pm 5.9 \$ α +	11.5 \pm 2.3 \$ α +	36.8 \pm 7.8	34.1 \pm 6.8 \$ α +
30-39 years (n= 91)	25.3 \pm 5.1 #	10.8 \pm 2.2 # α +	36.2 \pm 8.8	41.9 \pm 8.4 # α +
40 -49 years (n= 52)	25.1 \pm 5.2 #	9.5 \pm 1.9 # α +	36.03 \pm 8.9	48.1 \pm 9.6 # α +
≥ 50 years (n= 31)	24.1 \pm 4.8 #	8.3 \pm 1.7 # α	37.4 \pm 9.3	67.9 \pm 6.1 # α
F	11.812	20.908	1.395	135.904
P-value	<0.001*	<0.001*	0.245	<0.001*
Gender				
Females (n= 139)	26.4 \pm 5.4	10.8 \pm 2.2	35.5 \pm 7.1	56.4 \pm 11.3
Males (n= 107)	25.8 \pm 5.1	10.3 \pm 2.1	36.2 \pm 7.2	53.9 \pm 10.8
T	0.885	1.802	0.762	1.754
P-value	0.377	0.072	0.446	0.081
Marital status:				
Single (n=58)	27.6 \pm 5.6	9.9 \pm 1.9	33.3 \pm 6.6	56.2 \pm 13.6
Married (n=188)	26.9 \pm 5.2	10.4 \pm 2.1	36.6 \pm 7.3	54.1 \pm 7.6
T	0.880	1.620	3.076	1.495
P-value	0.379	0.106	0.002*	0.136
Children:				
No (n=75)	26.9 \pm 5.4	9.8 \pm 2	34.7 \pm 6.9	56.6 \pm 13.2
Yes (n=171)	26.1 \pm 6.2	10.3 \pm 2.1	36.3 \pm 7.3	54.4 \pm 7.1
T	0.968	1.744	1.910	1.694
P-value	0.334	0.082	0.057	0.092
Housing:				
Rented (n= 200)	26.5 \pm 5.3	10.2 \pm 2.1	36.03 \pm 8.8	54.5 \pm 7.2
Owned (n= 46)	25.7 \pm 5.1	9.9 \pm 1.8	34.72 \pm 8.1	56.7 \pm 13.2
T	0.929	0.896	0.941	1.560
P-value	0.353	0.371	0.347	0.120
Practice hobbies				
No (n= 180)	26.6 \pm 5.2	10.3 \pm 2.1	36.02 \pm 8.6	56.6 \pm 13.3
Yes (n= 66)	25.9 \pm 5.1	10.7 \pm 2.2	35.13 \pm 8.6	54.8 \pm 7.7
T	0.940	1.307	0.729	1.037
P-value	0.348	0.192	0.467	0.301

F =ANOVA test (Analysis of variance), T = Student t test, * Significant difference.

Significant with age group ≤ 29 years

\$ Significant with age group 30-39 years

α Significant with age group 40 -49years

+ Significant with age group ≥ 50 years

Association Between Burnout Subscales, Career Satisfaction, and Professional Characteristics:

Mean scores for emotional exhaustion and depersonalization were significantly higher among residents (holding the least academic rank) and those with less than or equal to 10 years of experience. Conversely, the mean career satisfaction score was significantly higher among professors (holding the highest academic rank) and those with 20 or more years

of experience. Depersonalization scores were significantly higher among clinicians who didn't choose their off day, took more than two-night shifts per week, were on call duty, and those who experienced interference between work and home. Additionally, the mean emotional exhaustion score was significantly higher among clinicians taking less than two vacations per year compared to clinicians taking more than two vacations per year (Table 6).

Table 6: Association between burnout subscales, career satisfaction and professional characteristics of the studied clinicians (n=246)

	professional characteristics	Emotional exhaustion	Depersonalization	Personal Accomplishment	Career Satisfaction
		Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD
Academic rank:	1-Resident (n= 54)	30.1±6.2 α@+	11.8±2.4 \$α@+	34.9±6.9	32.5±6.5 \$α@+
	2-A. lecturer (n=78)	28.5±5.7 α+	10.4±2.1 #@+	35.4±7.1	40.4±8.1 #@+
	3-Lecturer (n=50)	23.7±4.9 #@\$	9.7±2.3 #+	36.1±7.4	38.2±7.6 #@+
	4-A. professor (n=30)	26.5±5.3 #α	9.4±1.9 #+\$	36.3±7.2	46.8±9.4 #α+
	5-Professor (n=34)	24.2±4.9 #	8.6±1.7 #α@	36.2±7.3	67.3±5.2 #α@
	F	12.446	7.752	0.333	124.807
	P-value	<0.001*	<0.001*	0.855	<0.001*
Experience (Years)	1-≤10 (n =128)	28.4±5.6 \$α	11.8±2.4 \$α	35.8±7.2	33.8± 6.8 \$α
	2-11-19 (n=72)	25.3±5.1 #	9.04±1.8 #	36.2±7.3	48.4±8.3 #α
	3-≥ 20 (n= 46)	25.8± 5.2#	8.7±1.7 #	35.9±7.4	66.8±5.9 #
	F	9.056	57.538	0.070	380.45
	P-value	<0.001*	<0.001*	0.931	<0.001*
Economic satisfaction:	No (n=183)	27.2±5.4	10.3±2.1	35.7±8.8	58.2±10.2
	Yes (n=63)	26.6±5.3	10.7±2.2	35.8±8.2	57.8±10.9
	T	0.764	1.288	0.017	0.264
	P-value	0.445	0.198	0.986	0.792
Choose day off:	No (n= 153)	26.7±5.3	11.1±2.2	36.3±7.3	57.1±13.5
	Yes (n=93)	27.3±5.5	9.02±1.8	35.8±7.6	56.8±10. 2
	T	0.849	7.685	0.513	0.185
	P-value	0.396	<0.001*	0.608	0. 853
>2-night shifts/ week:	No (n= 51)	26.9±5.4	9.2±1.8	36.9±8.5	57.8±13.4
	Yes (n=195)	27.1±5.6	11.3±2.3	35.5±8.7	56.2±8.8
	T	0.229	7.685	1.066	1.026
	P-value	0.819	<0.001*	0.288	0.306
On call duty:	No (n=61)	27.8±5.6	8.8±1.8	35.9±8.3	56.2±13.5
	Yes (n=185)	26.5±5.2	11.3±2.3	36.02±8.8	55.7±6.5
	T	1.661	7.740	0.058	0.387
	P-value	0.098	<0.001*	0.954	0.699
Work home interference:	No (n=66)	26.1±5.2	8.7±1.7	35.6±8.4	56.7±13.3
	Yes (n=180)	27.4±5.5	10.6±2.1	37.01±9.02	57.5±5.5
	T	1.666	6.598	1.226	0.668
	P-value	0.096	<0.001*	0.221	0.504
Vacation/year:	< 2(n=171)	27.7±9.1	10.9±4.9	35.6±8.4	56.2±13.8
	≥ 2(n=75)	25.1±8.2	10.01±4.3	37.01±9.02	54.3±7.9
	T	2.124	1.360	1.185	1.114
	P-value	0.034*	0.175	0.237	0.266

A.: Assistant, F =ANOVA test (Analysis of variance), T = Student t test, * Significant difference.

Significant with group 1(Resident \ experience≤10 years), \$ Significant with group 2(Assistant lecturer\ experience11-19 years)

α Significant with group 3(lecturer\ experience≥ 20 years),

@ Significant with group 4(Assistant professor), + Significant with group 5 (professor).

Correlation Between Career Satisfaction and Burnout Subscales: A statistically significant weak negative correlation was observed between emotional exhaustion and career satisfaction (Table 7).

Table 7: Correlation between career satisfaction and burnout subscales among studied clinicians across the major specialties in Zagazig University Hospitals (n=246)

	Emotional exhaustion		Depersonalization		Personal Accomplishment	
	r	p-value	r	p-value	r	p-value
Career satisfaction	-0.133	0.035*	0.026	0.582	0.035	0.582
Depersonalization	-0.189	0.603			-0.022	0.729
Personal Accomplishment	0.018	0.778	-0.022	0.729		

r: Correlation coefficient, *: Significant difference.

DISCUSSION

The majority of the studied physicians exhibited moderate levels of emotional exhaustion, depersonalization, and personal accomplishment, followed by high levels of these subscales. These findings were consistent with the results of a previous study conducted in Zagazig University Hospitals [16]. However, they were inconsistent with a study from Saudi Arabia [12], which reported low levels of emotional exhaustion and depersonalization among physicians. Our results support the hypothesis that specialty affects burnout, as significant differences in burnout syndrome subscales were detected across the four major specialties (internists, pediatricians, gynecologists and obstetricians, and surgeons). The study found higher emotional exhaustion among pediatricians and internists compared to general surgeons and gynecologists and obstetricians. This contrast may reflect the unique nature of certain specialties, such as Gynecology and Obstetrics, which is associated with the positive event of assisting mothers in childbirth, potentially reducing emotional exhaustion among obstetrics clinicians. This finding aligns with a study by **Mortada et al.** [17] but contradicts the study by **Marzouki et al.** [12], which reported higher emotional exhaustion among general surgeons and gynecologists and obstetricians than among pediatricians and internists. Our results revealed that the sense of personal accomplishment was lower in internists and general surgeons than in pediatricians. This aligns with a study by **Mortada et al.** [17] but differs from a study by **Marzouki et al.** [12], which reported a low level of personal accomplishment among pediatricians compared to general surgeons.

Regarding overall career satisfaction, most clinicians in our study reported being moderately satisfied with their careers. This result aligns with the findings of a study conducted by **Mortada et al.** [17] but contrasts with a study by **Lopes et al.** [18], which found low levels of career satisfaction among physicians. Our results showed that the majority of internists were significantly satisfied with their careers compared to physicians of other specialties, consistent with a study by **Mortada et al.** [17]. Regarding the association between burnout subscales, career satisfaction, and professional characteristics, the risk of emotional exhaustion and depersonalization was significantly higher among physicians with the least academic rank (resident) and those with ≤10 years of experience than other groups. In

terms of the association between burnout subscales, career satisfaction, and personal characteristics, our results indicated that younger physicians (≤29 years old) were at a significantly higher risk of emotional exhaustion and depersonalization than older physicians. Conversely, older physicians (≥50 years old) were significantly more satisfied with their careers than younger age groups. These differences can be explained by the fact that younger physicians, especially in university hospitals, are exposed to heavy workloads in addition to their educational responsibilities, which tends to decrease with increasing age. These findings were consistent with other studies [17-19] but inconsistent with a study by **Dinibutun** [20]. Our results also revealed that non-married individuals were at a significantly higher risk of experiencing low personal accomplishment than married individuals, in line with a study by **Mortada et al.** [17] but inconsistent with a study by **Lopes et al.** [18], which found a higher level of low personal accomplishment among married individuals. Regarding the association between burnout subscales, career satisfaction, and professional characteristics, the risk of emotional exhaustion and depersonalization was significantly higher among physicians with the least academic rank (resident) and those with ≤10 years of experience than other groups. In contrast, career satisfaction was significantly higher among physicians with the highest academic rank (Professor) and those with ≥20 years of experience. These findings were consistent with studies conducted by **Mortada et al.** [17] and **Alrawashdeh et al.** [19] but inconsistent with studies by **Lopes et al.** [18] and **Dinibutun** [20], which found higher job satisfaction among those with 11-15 years and higher burnout levels among those with a higher academic rank.

Depersonalization, an important aspect of burnout syndrome in physicians, as perceiving patients as objects rather than human beings may lead to detrimental negligence in treatment procedures and psychological aspects of patients. Our study revealed that clinicians who didn't choose their off day, took more than two-night shifts per week, were on call duty, and those who experienced interference between work and home were at a higher risk of depersonalization. This can be explained by an increasing time of working without any motivations or extra benefits, which can aggravate burnout. This finding was consistent with studies

conducted by **Mortada et al.** [17] and **Alrawashdeh et al.** [19].

A significantly higher emotional exhaustion score was observed among physicians taking fewer vacations per year. Increased workloads and decreased personal time for themselves can explain this observation, consistent with the study done by **Mortada et al.** [17].

Our results detected a statistically significant negative correlation between emotional exhaustion and career satisfaction ($r = -0.133$). This means that physicians who are satisfied are less likely to develop emotional exhaustion. This finding aligns with other studies [17, 20, 21, 22]. The correlation coefficients in these previous similar studies were -0.129, -0.565, -0.379, and -0.203, respectively.

CONCLUSIONS

The study reveals a moderate level of burnout syndrome and an average level of career satisfaction among clinicians at Zagazig University Hospitals. Pediatricians faced a higher risk of emotional exhaustion, whereas internists and general surgeons were significantly more prone to experiencing low personal accomplishment. Key personal and professional factors contributing to an increased risk of burnout included age ≤ 29 years, non-marital status, being a resident, having ≤ 10 years of experience, not having the ability to choose off days, working >2 -night shifts per week, being on call duty, experiencing work-home interference, and taking fewer than two vacations per year. Conversely, career satisfaction was higher among physicians aged ≥ 50 years, holding the rank of professor, and those with ≥ 20 years of experience. A negative correlation was observed between emotional exhaustion (EE) and career satisfaction.

RECOMMENDATIONS

To mitigate and manage burnout while enhancing career satisfaction and patient care, it is crucial to implement control measures over schedules and working hours, thereby reducing overall workload. This can be achieved through the establishment of organizational regulations, coupled with an increase in the number of resident clinicians. Additionally, regular health education interventions are advised for clinicians, commencing from their pre-employment training programs. Periodic evaluations for early detection and prevention of occupational disorders are essential. Furthermore, it is recommended to conduct larger prospective studies to validate and strengthen the findings presented in this study.

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