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Depression, Anxiety, and Burnout Among Egyptian Anesthesiologists

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Abstract

Background: *Anesthesiologists face potential stressors, lack of appreciation, reduced bargaining power, heavy duty in ensuring patient safety and high accountability; therefore work-life balance for them is challenging. Also, anesthesiologists have to work for long hours and on-call duties, leading to their fatigue and vulnerability to mental disorders and burnout. Burnout is considered to be an epidemic and it received an increased worldwide attention. The study objective was to evaluate the prevalence and associated factors of depression, anxiety and burnout among Egyptian anesthesiologists.*

Methods: *A cross-sectional observational study using online questionnaire that followed the Checklist for Reporting Results of Internet E-survey that was administered via social media applications. It consists of four sections, section for Socio-Demographic Characteristics of participants, section about participants' anxiety disorder, section about participants' depressive symptoms and section about participants' burnout syndrome.*

Results: *A total of 145 Egyptian anesthesiologists were included in this study the current study revealed that psychological burden among anesthesiologists, anxiety, depression, and burnout occurred among 55.2%, 42.1%, and 36.6% of anesthesiologists, respectively. Those working > 8 h had more anxiety symptoms than others working less than 8 h ($p < 0.001$). Depressed participants have more anxiety symptoms compared to non-depressed (65.6% vs 47.6%, respectively). Presence of burnout is associated with more anxiety symptoms ($p < 0.001$).*

Key words: *Depression, anxiety, burnout, Egyptian Anesthesiologists.*

BACKGROUND

Anesthesiologists are a special risk group and more vulnerable to psychological disorders. They experience many stressors and are more exposed to psychological manifestations such as anxiety, burnout, and depression. The prevalence of anxiety, burnout, and depression among anesthesiologists is relatively high. Anesthesiologists experienced significant amounts of stress in their work settings, having to directly deal with extreme working periods, high-risk patients, and an increasingly complex working environment. (1)
Burnout is one of the main chronic health problems with negative consequences on the quality of life. This is a multidimensional occupational syndrome, characterized by three main criteria: emotional exhaustion (EE), depersonalization (DP), and low personal accomplishment (PA). Burnout is particularly identified in professionals working in caregiving and human services, especially the ones who are interpersonally stressed and emotionally vulnerable. Intensive care professionals and anesthesiologists seem to face a critical risk of burnout. (2)
Burnout in the medical field has attracted much attention recently, given the dramatic negative outcomes

associated with burnout in medical practice and clinical outcomes. Burnout results in the affected professional requiring additional energy resources to deal with the situation and inhibit traditional one on one interactions. (3) It has a prevalence of about 27% in medical professionals (4); however, a higher percentage has been reported in anesthesiologists, ranging from 50% to 70%, compared with a prevalence of 16% in school teachers or 15.6% in other professions not related to health. (5, 6)
Anesthesiologists' psychological maintenance is a mandatory issue that affects their well-being and ability to cope with the work overload they face; however, to our knowledge, there is a lack of information regarding the prevalence and risk factors of depression, anxiety, and burnout among Egyptian anesthesiologists. Understanding the working conditions that affect the medical practice of anesthesiologists, and the extent to which their presence affects the subjects' personal, family, and social well being is critical to designing interventions to improve the contributing factors. The objective of this study was to evaluate the associated factors and describe the prevalence of depression, anxiety, and burnout among Egyptian anesthesiologists.

MATERIALS AND METHODS:

- **Research design.**

Cross-sectional study

- **Target population**

The target population is Egyptian anesthesiologists and intensive care physicians. The study was conducted from the 20th of December 2023 to the 30th April 2024.

- **Sample Size Determination**

Basis of sample size estimation:

Based on a previous study by Afonso et al., (2021) (7), the expected frequency of burnout risk among anesthesiologists is 13.8%. Sample size of 125 anesthesiologists will be needed to provide a two-sided 99% confidence interval for a single proportion using the large sample normal approximation and will extend 8% from the observed proportion and this sample will be increased by 15% to compensate for possible non responsiveness so the final sample size will be 145 anesthesiologists. Sample size estimation was performed by Epi Info statistical package. (8)

- **Sampling strategy**

Our study population includes Egyptian anesthesiologists and intensive care physicians. Participants were recruited using a Google Form. The other participants were directed to disseminate the survey link to their various groups by the snowballing technique, which entailed disseminating the website link through social media platforms such as Facebook, Instagram, Twitter, and WhatsApp.

- **Statistical analysis**

Statistical Package for Social Sciences (SPSS) Version 27 was used for data management and analysis. Means and standard deviations or medians and/or ranges, were used to summarize the numerical data. When comparing two sets of numerical data, the student t-test or the non-parametric Mann Whitney test were used, depending on the situation. The frequency and percentages were used to summarize the category data. The internal consistency scale was assessed using the Cronbach's α coefficient. Categories of categorical data were compared using the Chi-Square test. Finally, based on the initial characteristics of the study population, a logistic regression model and stepwise selection were utilized to predict the factors affecting depression, anxiety, and burnout. The 95% confidence intervals associated with the adjusted odds ratios were used in the regression analysis. All tests were two tailed and a P-value of 0.05 or lower was considered statistically significant.

- **Data Collection Instruments:**

An online questionnaire that followed the Checklist for Reporting Results of Internet E-survey (CHERRIES) (Eysenbach, 2004) (9) was administered via email and social media applications (WhatsApp, Facebook, and Messenger).
It consists of the following sections:

- **The research consisted of four parts.**

Part 1: Questions about Participants' Socio-Demographic Characteristics (age, sex, marital status, years of experience, place of work, post graduate certificates).
Part 2: Questions about participants' anxiety disorder.
Part 3: Questions about participants' depressive symptoms.
Part 4: Questions about participants' burnout syndrome.
The research was carried out following the Checklist for Reporting Results of Internet E Surveys guidelines for online survey and the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement guidelines for reporting observational studies. After providing a brief explanation of the study, including how to complete the questionnaires and how long they would take, the participants gave their online informed consent. Involvement in the study was entirely voluntary.
Finally, a total of 145 Egyptian anesthesiologists and intensive care physicians who completed the questionnaires were included in the analysis.

- **Ethical statement**

The Declaration of Helsinki was followed in the conduct of this study. Before the survey began, each participant provided electronic informed written consent. Before the survey was submitted, participants had the opportunity to withdraw without giving any justification. It was entirely voluntary and noncommercial. All of the responses were devoid of any identifying information and were anonymous; only the principal investigator had access to the data. The National Cancer Institute's, Cairo University Ethical Review Board granted the study protocol ethical clearance on the date 10/12/2023 with number EB2312-304-073.

- **Instrument for data collection:**

The questionnaire consisted of the following sections:
Part 1: Questions about Participants' Socio-Demographic Characteristics (age, sex, marital status, years of experience, place of work, post graduate certificates).
Part 2: Questions about participants' anxiety disorder.

- **Anxiety disorder**

The 21-item Beck Anxiety Inventory (BAI) was utilized in the current study to assess symptoms of anxiety of anesthesiologists and intensive care physicians. It assesses the degree of anxiety as well as the psychological, physical, and cognitive symptoms that go along with it. Every BAI item has four rating scales and four possible responses.

- Not at all
- Mildly (It did not bother me much)
- Moderately (It was very unpleasant, but I could stand it)
- Severely (I could barely stand it).

Each answer was then given a number, ranging from 0 to 3, where 0 denotes not at all and 3 denotes a severely. Each of the 21 symptoms had a total score that ranged from 0 to 63 points. Anxiety levels were classified as "minimal" with a total score of 0–7, "mild" at 8–15, "moderate" at 16–25, and "severe" at 26–63. In this way, the moderate and severe were considered as having anxiety disorder. The BAI is copyrighted by and currently available from Pearson Education, Inc. (http://www.pearsonassess.com).

- **Depressive symptoms**

The anthologist's frequency of depressive symptoms during the previous two weeks was evaluated on a 9-point (PHQ-9) scale ranging from 0 (not at all) to 3 (nearly every day) using the 9-item patient health questionnaire-9 (PHQ-9). The PHQ-9 has a score range of 0 to 27, with higher scores (between 20 and 27) indicating severe depressive symptoms. The moderate and severe were considered as having depression in this setting.

- **Burnout symptoms**

To evaluate burnout, the Maslach Burnout Inventory (MBI) was used. Maslach & Jackson gave the initial description of it in 1981. It is a psychological evaluation instrument with 22 symptom items Maslach et al., (1996–2016). (10) The MBI takes roughly ten minutes to fill out. (11)
The three components of burnout (emotional exhaustion, personal accomplishment measures, and

depersonalization) are measured and validated in the MBI.

The MBI is available in five versions: the Human Services Survey (MBI-HSS), the General Survey (MBI-GS), the Educators Survey (MBI-ES), the Human Services Survey for Medical Personnel (MBI-HSS (MP)), and the General Survey for Students (MBI-GS [S]). (10) The Human Services Survey (MBI-HSS) was used in the present study. It consists of twenty-two items. It is the MBI version that is most frequently utilized. (12)

The MBI items are graded using a 7-Likert scale that range from "never" (0) to "daily" (6). Emotional exhaustion (9 items), personal achievement (8 items), and depersonalization (5 items) are its three section scales. Every scale evaluates the distinct aspects of burnout on its own. It is not appropriate to combine scales to create a single burnout scale. In this study, a person is considered clinically burnout if he exhibits high levels of emotional exhaustion along with either low levels of personal accomplishment or high levels of depersonalization. The 7-Likert score of MBI are as follows:

- Never (0)
- A few times a year or less (1)
- Once a month or less (2)
- A few times a month (3)
- Once a week (4)
- A few times a week (5)
- Every day (6)

RESULTS & DUSCUSSION:

A total of 145 Egyptian anesthesiologists were included in this study, and their responses were analyzed. Table 1 shows the baseline demographic characteristics of study participants. The mean (± SD) age was 36 (±6) ranging from (24-62) years. More than half of the participants were females (61.4%, n= 89). Most participants reside in urban areas (87.6%, n=127), and married with children (66.2%, n=96). Smokers constituted 23.4% of the overall sample. Approximately one-fourth (23.4%) complained of chronic disease. Approximately 38% of the participants have a PHD degree. Most of participants work in university hospitals (71.7%) and (15.2%) work in a public hospital. The median working hours were 8 h (range 3-18 h), 67.6% of the participants worked more than 8 h per day. The median working days was 4 ranging from (2-7) days. The median years of experience were 10 ranging from (1-38) year **(Table 1)**.

The current study revealed that psychological burden among anesthesiologists, anxiety, depression, and burnout occurred among 55.2%, 42.1%, and 36.6% of anesthesiologists, respectively, as mentioned in **Figure (1)**.

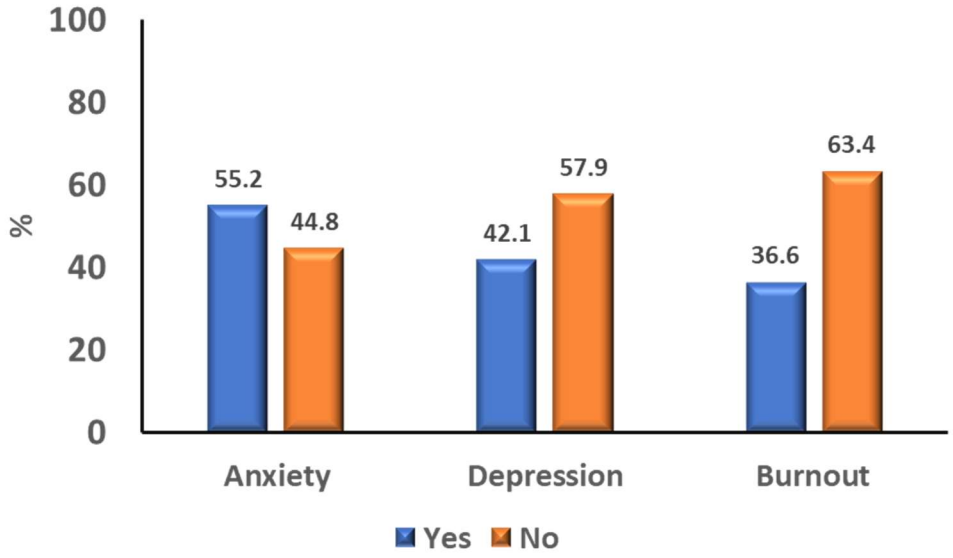

Figure (1): Prevalence of anxiety, depression, and burnout among Egyptian anesthesiologists

Factors associated with anxiety:

Table 2 shows the relationship between anxiety and sociodemographic characteristics. Smoking was associated with more anxiety symptoms than non-smokers ($p < 0.001$). Participants suffering from chronic disease have higher anxiety symptoms than those without chronic conditions ($p<0.001$). Those working > 8 h had more anxiety symptoms than others working less than 8 h (75.5% vs. 12.8%, $p <0.001$). Also, the median working days per week is higher among participants having anxiety symptoms compared to others (4.5 vs 3 days per week). Depressed participants have more anxiety symptoms compared to non-depressed (65.6% vs 47.6%, respectively). Presence of burnout is associated with more anxiety symptoms ($p <0.001$). However, there were no statistically significant differences in anxiety symptoms in relation to the presence of (age, gender, marital status, residence, and years of experience) (Table 2).

Table 1: Baseline Characteristics of study participants

	n=145 (%)
Age (Years)	
Mean ± SD	35 ±6
Median (range)	33 (24-62)
Gender	
Female	89 (61.4)
Male	56 (38.6)
Marital status	
Single	36 (24.8)
Married without children	13 (9)
Married with children	96 (66.2)
Residence	
Rural	18 (12.4)
Urban	127 (87.6)
Smoking	
Yes	34 (23.4)
No	111 (76.6)
Chronic disease	
Yes	34 (23.4)
No	111 (76.6)
Place of work	
University hospital	104 (71.7)
Public hospital	22 (15.2)
Private hospital	19 (13.1)
Post graduate certificates	
No	16 (11)
Diploma	6 (4.1)
Fellowship	14 (9.7)
Master	54 (37.2)
MD	55 (37.9)
Working hours group	
<8 Hours	47 (32.4)
≥8 Hours	98 (67.6)
	Median (range)
Working hours per day	8 (3-18)
Working days per week	4 (2-7)
Years of experience	10 (1-38)

SD: Standard deviation

Factors associated with depression symptoms:

The associations of depression with socio demographic and work-related factors were presented in table 2. Age, gender, marital status, residence, smoking, presence of chronic diseases, place of work, post graduate certificate, working hours per day, working days per week and burnout status were not associated with depression occurrence. Whereas anxiety status and years of experience were significant factors for the depression status (P =0.042 &0.027 respectively), as shown in **Table 2**.

Table (2): Relation of anxiety symptoms with sociodemographic and work characteristics of the participants (n=145)

	Anxiety		p value
	Moderate to severe	No to mild	
	n=80 (%) *	n=65 (%) *	
Age (Years) (Mean ±SD)	34 ±6	35 ±7	0.253
Gender			
Female	50 (56.2)	39 (43.8)	0.864
Male	30 (53.6)	26 (46.4)	
Marital status			
Single	18 (50)	18 (50)	0.508
Married without children	9 (69.2)	4 (30.8)	
Married with children	53 (55.2)	43 (44.8)	
Residence			
Rural	10 (55.6)	8 (44.4)	0.972
Urban	70 (55.1)	57 (44.9)	
Smoking	(0)	(0)	
Yes	32 (94.1)	2 (5.9)	<0.001
No	44 (40.4)	65 (59.6)	
Chronic disease			
Yes	29 (85.3)	5 (14.7)	<0.001
No	51 (45.9)	60 (54.1)	
Place of work			
University hospital	57 (54.8)	47 (45.2)	0.930
Public hospital	13 (59.1)	9 (40.9)	
Private hospital	10 (52.6)	9 (47.4)	
Post graduate certificates			
No	8 (50)	8 (50)	0.681
Diploma	3 (50)	3 (50)	
Fellowship	8 (57.1)	6 (42.9)	
Master	34 (63)	20 (37)	
MD	27 (49.1)	28 (50.9)	
Working hours group			
<8 Hours	6 (12.8)	41 (87.2)	<0.001
≥8 Hours	74 (75.5)	24 (24.5)	
Depression			
Moderate & severe depression	40 (65.6)	21 (34.4)	<0.001
No& mild depression	40 (47.6)	44 (52.4)	
Burnout			

High burnout	40 (75.5)	13 (24.5)	<0.001
Low burnout	40 (43.5)	52 (56.5)	
	Median (range)	**Median (range)**	
Working hours per day	12 (2-18)	6 (2-18)	<0.001
Working days per week	4.5 (2-7)	3 (2-7)	<0.001
Years of experience	9 (1-23)	11 (1-38)	0.337

SD: Standard deviation, **p value <0.05** is considered significant

Factors associated with burnout symptoms:

As regards the bivariate associations with burnout among the participants, age, gender, marital status, residence, smoking, presence of chronic diseases, place of work, post graduate certificate, working hours per day, working days per week and presence of depression were not significantly related to the burnout status of the participants, while increase working hours per day, working days per week and presence of anxiety were significant factors for burnout, as displayed in **Table 4.**

Table 5 shows the multivariate analysis of factors affecting anxiety, depression, and burnout. The factors independently affecting anxiety were working ≥ 8 h/day, smoking, having chronic disease, and depression. The only independent factor affecting depression was, years of experience of participants. Regarding burnout, the only independent fact affecting burnout was the number of working hours per day.

Table 3. Relation of depression symptoms with sociodemographic and work characteristics of the participants (n = 145)

	Depression		**p value**
	Moderate to severe depression	**No to mild depression**	
	n=61 (%)	**n= 84 (%)**	
Age (Years) (Mean ±SD)	34 ±6	35 ±7	0.304
Gender			
Female	33 (37.1)	56 (62.9)	0.167
Male	28 (50)	28 (50)	
Marital status			
Single	15 (41.7)	21 (58.3)	0.699
Married without children	4 (30.8)	9 (69.2)	
Married with children	42 (43.8)	54 (56.3)	
Residence			
Rural	6 (33.3)	12 (66.7)	0.458
Urban	55 (43.3)	72 (56.7)	
Smoking			
Yes	13 (38.2)	21 (61.8)	0.693
No	48 (43.2)	63 (56.8)	
Chronic disease			
Yes	13 (38.2)	21 (61.8)	0.693
No	48 (43.2)	63 (56.8)	
Place of work			
University hospital	41 (39.4)	63 (60.6)	0.355
Public hospital	9 (40.9)	13 (59.1)	
Private hospital	11 (57.9)	8 (42.1)	
Post graduate certificates			
No	7 (43.8)	9 (56.3)	0.792

Diploma	3 (50)	3 (50)	
Fellowship	8 (57.1)	6 (42.9)	
Master	21 (38.9)	33 (61.1)	
MD	22 (40)	33 (60)	
Working hours group			
<8 Hours	18 (38.3)	29 (61.7)	0.592
≥8 Hours	43 (43.9)	55 (56.1)	
Anxiety			
No to mild	21 (32.3)	44 (67.7)	0.042
Moderate to severe	40 (50)	40 (50)	
Burnout			
Low burnout	37 (40.2)	55 (59.8)	0.602
High burnout	24 (45.3)	29 (54.7)	
	Median (range)	**Median (range)**	
Working hours per day	10 (2-18)	9 (2-18)	0.174
Working days per week	4 (2-7)	4 (2-7)	0.384
Years of experience	6 (1-30)	10 (1-38)	0.027

SD: Standard deviation, **p value <0.05** is considered significant

Table 4. Relation of burnout symptoms with sociodemographic and work characteristics of the participants (n = 145)

	Burnout		**p value**
	High burnout	**Low burnout**	
	n=53 (%)	**n=92 (%)**	
Age (Years) (Mean ± SD)	34 ±6	35 ±7	0.572
Gender			
Female	33 (37.1)	56 (62.9)	0.868
Male	20 (35.7)	36 (64.3)	
Marital status			
Single	16 (44.4)	20 (55.6)	0.509
Married without children	4 (30.8)	9 (69.2)	
Married with children	33 (34.4)	63 (65.6)	
Residence			
Rural	6 (33.3)	12 (66.7)	0.801
Urban	47 (37)	80 (63)	
Smoking			
Yes	18 (52.9)	16 (47.1)	0.027
No	35 (31.5)	76 (68.5)	
Chronic disease			
Yes	12 (35.3)	22 (64.7)	0.862
No	41 (36.9)	70 (63.1)	
Place of work			
University hospital	41 (39.4)	63 (60.6)	0.499
Public hospital	6 (27.3)	16 (72.7)	
Private hospital	6 (31.6)	13 (68.4)	
Post graduate certificates			
No	6 (37.5)	10 (62.5)	0.455

Diploma	3 (50)	3 (50)	
Fellowship	2 (14.3)	12 (85.7)	
Master	20 (37)	34 (63)	
MD	22 (40)	33 (60)	
Working hours group			
<8 Hours	0 (0)	47 (100)	<0.001
≥8 Hours	53 (54.1)	45 (45.9)	
Anxiety			
Moderate to severe	40 (50)	40 (50)	
No to mild	13 (20)	52 (80)	<0.001
Depression			
Moderate to severe	29 (34.5)	55 (65.5)	0.602
No to mild	24 (39.3)	37 (60.7)	
	Median (range)	**Median (range)**	
Working hours per day	13 (8-18)	7 (2-18)	<0.001
Working days per week	5 (2-7)	4 (2-7)	0.038
Years of experience	10 (1-25)	10 (1-38)	0.921

SD: Standard deviation, **p value <0.05** is considered significant

Table 5. Multivariate analysis of factors associated with anxiety, depression and burnout.

	B	S.E.	OR	95% C.I for OR	P value
Anxiety					
Working hours (≥ 8 h vs. < 8 h)	3.3	0.6	26.4	7.9-88.3	<0.001
Smoking (yes vs. no)	2.5	0.9	11.8	1.9-73.7	0.008
Chronic disease (yes vs. no)	2.1	0.9	8.1	1.4-45.1	0.018
Depression (yes vs. no)	1.4	0.5	4.2	1.5-11.8	0.006
Depression					
Years of experience	-0.1	0.04	0.9	0.86-0.99	0.048
Burnout					
Working hours per day	0.3	0.1	1.4	1.2-1.6	<0.001

B: regression coefficient, SE: Standard error, **OR,** Odds ratio; **CI,** Confidence interval, **p value <0.05** is considered significant.

Anesthesiology is one of the most stressful medical specialties, so it has been chosen to this research study as high prevalence of burnout and psychological burden were expected. Anesthesiologists carry high responsibilities during surgery and may frequently face stressful scenarios such as management of unanticipated difficult airways, cardiac arrest, and other life-threatening emergencies. Moreover, the work pattern, at least for larger hospitals, may also be perceived as more stressful due to high numbers of on-calls and night shifts and the higher possibility of working during weekends and an imbalance between personal and professional lives, compared to other physicians. The influence of stressful work pattern on anesthesiologists' burnout is manifest in several studies. (1)

The current study revealed that psychological burden among anesthesiologists, anxiety, depression, and burnout occurred among 55.2%, 42.1%, and 36.6% of anesthesiologists, respectively.

In Egypt, different studies reported higher prevalence of burnout among HCWs, the prevalence of burnout among ICU workers in a study done by Abbas et al., 2019 in Canal Health Sector was very high (87.4%). (13) While study by Abdo et al., 2021 was to assess the prevalence of burnout syndrome among health-care workers of the emergency hospital, University of Tanta revealed a moderate level of burnout (66.0%). (14)

In the Middle East, a study conducted in Qatar by Abdulla et al., 2011 including all GPs working in 21 primary healthcare centers reported that of all the GPs, 12.6% were burned out, this was not in line with our

results may be due to difference of specialty. (15)A metanalysis done by Low et al., 2019 studied the prevalence of burnout according to the specialty reported that the prevalence in anesthesiologist 43.71% while in family medicine was 35.97%. (16)
A study in United States done by Afonso et al, 2021 on Burnout Rate and Risk Factors among Anesthesiologists concluded that the prevalence of burnout among anesthesiologists was high 59.2%. (7)
In agreement with our study, Soonthornkes and others (2023) studied the prevalence of burnout and the associated risk factors among Thai anesthesiology residents found that the overall prevalence of burnout among Thai anesthesiology residents was 35.5% that was in line with our study finding. (17)
Regarding to factor associated with burnout, the increase in working hours per day, working days per week and presence of anxiety were significant factors for burnout.
Soonthornkes and others (2023) reported that sleeping less than 7 hours, experiencing dissatisfaction, and contemplating discontinuation of training were associated with a higher risk of burnout. (17)
As regards the associations of burnout with age, gender, marital status, residence, smoking, presence of chronic diseases, place of work, post graduate certificate, working hours per day, working days per week and presence of depression were not significantly related to the burnout status of the participants of the current study.
some previous studies have reported factors to be associated with an increased risk of burnout, such as younger age and female gender in study done by Chiron et al., 2010. (18) Marital status and lack of job support were related to burnout in Shams and El Masry study, 2013. (19)
In the current study 55.2% of the participants have anxiety, while 42.1% have depression. We also explored factors associated with anxiety. Smoking, chronic diseases, working hours more than 8, working days more than 4 per week, depression and presence of burn out were the main factors associated with anxiety. While anxiety status and years of experience were significant factors for the depression status.
Another study carried out in Egypt 2021 by Mohasseb, M., & Elsheikh, A. to assess level of anxiety and depression among physicians showed that 40% of the studied physicians experienced anxiety and the prevalence of depressive symptoms was 34.8%. similar to our finding, the study reported an increase in the severity of anxiety symptoms by increasing the work hours, night shifts, and increased number of patients. Moreover, feeling lack of logistic, physical, psychological, and financial support at work was a significant influencing factor for developing anxiety and depression. (20)
Multivariate analysis of factors affecting anxiety, depression, and burnout in our study revealed that the factors independently affecting anxiety were working ≥ 8 h/day, smoking, having chronic disease, and depression. The only independent factor affecting depression was, years of experience of participants. Regarding burnout, the only independent fact affecting burnout was the number of working hours per day. Afonso et al, 2021 study was in line with our finding, working more than 40h/week, experiencing staffing shortages and low level of support in work-life were the main risk factors for high risk of burnout. (7)
On the other hand, Abdo et al, 2021 reported that Multivariate analysis of variables affecting burnout revealed that age, frequency of exposure to violence at work, years of experience, work burden, supervision and work activities were significant predictors of burnout syndrome among the study population. (14)

- **Limitation of the study**

The current study conducted in 2023 after covid 19 pandemic, However the pandemic had minimal effect on the data as the covid 19 cases declined markedly in 2023. Another limitation that the study did not explore socioeconomic variability in depth which may have effect on burnout. Lastly Another possible limitation of the study refers to all data were self-reported, which suggests a possible bias in the method. But this method was the most convenient to this type of the study to allow disclosure of data without any embracement.

CONCLUSION

The current study on 145 Egyptian anesthesiologists concluded that high prevalence of burnout and psychological burden as anxiety and depression among the participants. Number of working hours per day was the significant factors affecting burnout. Number of experience years was the most relevant factors affecting depression. While working ≥ 8 h/day, smoking, having chronic disease, and depression were the

factors significantly affecting anxiety among anesthesiologists and intensive care physicians.

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