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PREVALENCE OF DEPRESSION AMONG PHYSICIANS IN MAJOR HOSPITALS IN TAIF CITY, SAUDI ARABIA IN 2020

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Abstract

Background: *Physicians are exposed to many stressors, such as the burden imposed by expectations of a high degree of professionalism, responsibility for patient well-being and maintenance of relationships with patients and health workers, as well as concerns about medical errors and malpractice litigation. Depression is an emotional disturbance that leads to deterioration of abilities and daily activities; and it is considered to be a major public health problem and a leading predictor of functional disability and mortality. Physicians' work is characterized by long working hours. Some studies have reported that lengthy working hours can be associated with depression in particular occupational settings.* ***Objectives****: 1. To estimate prevalence rate of depression among physicians in different specialties selected in major hospitals, Taif city, Saudi Arabia. 2. To compare the prevalence rate of depression between different specialties, Taif city, Saudi Arabia.* ***Subjects and methods*** *this was a Cross-sectional study among physicians in major hospitals in Taif city, this study has been conducted only 5 major hospitals in ministry of health inside the Taif city. A sample size through the epi program was (291) doctors. The researcher has been use a questionnaire covering socio-demographic data and Patient Health Questionnaire-9 (PHQ-9). The socio-demographic data contains 15 multiple-choice questions It has been written in English language and will be valid from 3 consultant.* ***Results*** *In our study only (63.6%) of the participated were (24-34 year), Male physicians (68.0%), physicians (71.1%) were Saudi. The prevalence of depression in the physicians is (22.3%). 65 out of the 291 respondents met the PHQ-9 negative criteria for depression. Of the 291 participants127 (43.6 %) scored into the minimal depression category, also scored into the mild depression category, 21.6 % (63/291), but into the moderate depression category 9.3% (27/291) into the severe depression category (3.1%) and the data ranged from(0- 25) by mean +SD (8.305±4.933), also show that X2(140.838) and is a significant while p-value =<0.001* ***Conclusion*** *the studies demonstrates that depression symptoms are common among physicians; the doctor-patient relationship issue is particularly stressful. Interventions implemented to minimize workload, improve doctor-patient relationships. which may improve their professional performance. Further research's is needed to identify effective strategies for preventing and treating depression among physicians in hospitals.*

Keywords: *Prevalence, depression, physicians, Saudi Arabia, Taif .*

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INTRODUCTION:

Physicians in principal hospitals are at high danger for depression. However, the estimated incidence of this ailment varies appreciably among studies. For example, in a study systematic, the précis estimate of the incidence of depression or depressive symptoms among resident physicians was 28.8%, ranging from 20.9% to 43.2% pending at the tool used, and expanded with calendar year.[1]

Physicians satisfy a special role within inside our society. While they're given many privileges and rewards, in addition they carry extreme responsibilities. Physicians are anticipated to be healers, available to others whenever a crisis occurs or a medical need arises. They are anticipated to have unfailing understanding and competence, to be compassionate and concerned, and to offer universally a hit care in a cost-powerful manner [2]. Comprehensively, in extra of 350 million people of any age enjoy the ill effects of depression in addition old people are powerless in opposition to depression.[3]

Studies have recommended that resident physicians experience higher rates of depression than the general public. [4-5]. Beyond the impacts of depression on people, resident depression has been connected to low quality patient consideration and expanded clinical errors. [6-7]. However, appraisals of depression or depressive burdensome manifestations change across studies, from 3% to 60%.[8-9] Studies additionally report clashing discoveries about resident depression depending on specialty, postgraduate year, sex, and different characteristics.[10-11] A solid gauge of gloom of depression prevalence during medical training is important for informing efforts to prevent, treat, and identify causes of depression among residents.[12] We directed a systematic review and meta-analysis of published studies of depression or depressive symptoms in graduate medical.

Depression influences roughly 121 million individuals worldwide paying little heed to religion, race, age, or sex. Universally, depressive disorders are the third driving reason for illness trouble for all ages and the main source for ladies matured 15-44 years. Between 45-95% (in general 69%) of patients with depression present with physical symptoms.[13]

Doctors are defenseless against some psychological problems, for example, uneasiness, depression, and occupational burnout, likely inferable from their openness to undeniable degrees of occupational stress. [14-15] A few examinations have assessed the mental health of doctors in developed countries such as the US, Britain, Canada, China, Japan, and Dutch. Past studies demonstrated that the commonness of depressive indications among doctors went from 10% to 15% in the US, Britain, Norway, and Japan. [16-17]. One of the most widely used for Depression scale is Patient Health Questionnaire which is derived from the Patient Health Questionnaire. This study the researcher needs to know the prevalence of depression of physicians in major specialties.

Saudi Arabia has an excessive occurrence of depression, and as populace grows, alongside rising danger variables of depression like persistent chronic disease, stress of modernization, sedentary life style and social isolation, coupled with pre-existing stigmas of having a mental health disorder, paucity of psychiatrist and assets supporting psychological health, the immediate and indirect costs of depression are expected to rise[18]. In the year 2020 depression would be the subsequent significant reason for disability adjusted life years lost, as announced by the World Health Organization. Depression is a psychological instability which causes relentless low disposition, a sense of despair, and has different danger factors. Its pervasiveness in essential consideration fluctuates between 15.3-22%, with worldwide prevalence up to 13% and between 17-46% in Saudi Arabia. Notwithstanding a few examinations that have shown advantage of early determination and cost-investment funds of up to 80%, physicians in primary care setting continue to miss out on 30-50% of depressed patients in their practices.[19]

Unfortunately, few researches have been completed with respect to Prevalence of depression among medical doctors in exclusive specialties. The following is précis of currently executed research in this regard. The prevalence of depression in primary care setting varies according to the subtype, with most depression at 4.8-8.6%, dysthymia between 2.1-3.7%, and minor depression between 8.4-9.7%. Aggregate pervasiveness for a wide type of depression around 15.3-22%, for patients found in in primary care [20]. As per 2001 Health Report of WHO, almost 15% of patients with significant depression have lifetime danger of ending by suicide [21], albeit late estimates are as low as 4%. In the United States, depression prevalence has been accounted for around 9% in general population [22], and fluctuating around 5-13% among adult patients visiting primary care [22]. In Europe, the general prevalence announced is 8.5%, of which ladies normal around 10% and men at 6.6% [11]. Globally occurrence of depression has been accounted for as expanding, in the most recent decade [23]. In

developing countries, 10-44% experience the depression and anxiety disorders and anxiety problems, and under 35% of the depressed receive medical care [23]. Pakistan has a general prevalence of 34% [24]. In Qatar, the pervasiveness is 27.8% [25]. Study was done to survey the Association of depression and self-destructive ideation with unreasonable patient requests and objections among Japanese doctors. They were sent an unknown questionnaire to10,000 randomly chose doctors working at hospitals who were members of the Japan Medical Association which were measured using the Japanese version of the Quick Inventory of the Quick Inventory of Depressive Symptomatology (QIDS). Among the 3,864 respondents, male (46.3%) reported experiencing unreasonable patient requests and grievances more as often possible than ladies (40.4%). Depressive side effects were shown in 8.3% of male and 10.5% of ladies, and 5.7% of men and 5.8% ladies were resolved to display self-destructive ideation. The quantity of preposterous requests and grumblings in the past a half year was altogether connected with depressive symptoms side effects and self-destructive ideation for the two people (P for pattern <0.01) [17]. A cross sectional examination was done in China and completed an overview to assess the prevalence of anxiety and depressive symptoms and related danger factors among doctors (2014). In this investigation, 2641 doctors' public hospitals in Shenzhen in southern China were enlisted and interviewed by using a structured questionnaire along with validated scales testing anxiety and depressive symptoms. An expected 25.67% of doctors had anxiety signs, 28.13% had depressive signs, and 19.01% had both anxiety and depressive manifestations [26].

Depression among medical students addresses a dismissed general health problem in India. It is vital to avoid the problem impacts of depression on one's instructive accomplishment and profession through early recognition and legitimate interventional measures. Few researches have been led at a worldwide level to measures the prevalence of depression among medical students. Every one of these investigations have been led in western nations just as in different pieces of the world.[27]

A cross sectional research was done in China and did an overview to study pervasiveness and related variables of depressive symptoms (2010). This research was performed during the time of September/October 2008. The research population comprised 1,890 specialists registered and working in the 20 public hospitals in Liaoning area, northeast of China.

A cross sectional research was done in 2015 and completed a study to investigate the depression, anxiety and signs of stress among Hong Kong Nurses. An aggregate of survey was filled by 850 members; the greater part of them was female (745 female) which is finished the online study. An expected 73 men (69.5%) depression signs and 32 men (30.5%) had depression signs, in any case 472 females (63.4%) not had depression symptoms and 273 females (36.6%) had depression manifestations [28] .

Denise Rodrigues Costa Schmidt (2011) did a survey to assess the Anxiety and depression among nursing specialists who work in surgical units in China. This survey was created at the surgical units of eleven hospitals in Londrina - Paraná, Brazil. In this survey 211 participants' specialists' classifications. An expected 51 attendants (24.2%) had depression manifestations (scores > 8), 158 nurse's caretakers (74.9%) had not depression indications (scores < 8) and 2 nurses (0.9%) didn't reply [29].

Mostafa A F. Abbas (2015) carried out a study to discover the Anxiety and Depression among Nursing Staff at King Fahad Medical City, Riyadh, and Kingdom of Saudi Arabia. The survey population comprised nursing staff from all hospitals and centers inside KFMC, 1300 questionnaires and HAD scale were disseminated; cooperation was discretionary and 715 (55%) nurses had been taken an interest in this investigation. result 539 typical 75% , 107 reason for concern 15% and 69 convenient clinical reason 10% [30] .

Rationale:

According to the researcher's knowledge, There was no much research about prevalence of depression among physicians in different specialties in Taif city. Why some specialties have a higher salary rate than the rest of the specialties which is called a psychological allowance?

AIM OF THE STUDY

To assess psychological status for physician working in Taif major hospitals to enhance the working environment and that may lead to improvement in health care provided to the patient.

Objectives:

To estimate prevalence rate of depression among physicians in different specialties selected in major hospitals, Taif city, Saudi Arabia.

To compare the prevalence rate of depression between different specialties, Taif city, Saudi Arabia.

SUBJECTS AND METHODS:

Study design: Cross-sectional study**.**

Study setting / study area:

Taif city is located in the West of Saudi Arabia. The population of the province in 1435 is estimated at 993.8 thousand people, 12.79% of the total population of the region. (31). One of the most important characteristics of Taif is its location, which is characterized by proximity to Mecca. It includes a number of Islamic monuments. It is visited by many tourists from inside and outside the Kingdom, especially foreigners interested in natural scenes and to moderate its atmosphere throughout the year (31)

In Taif, there are 5 major hospitals belonging to ministry of health inside the city and 11 peripheral hospitals outside Taif city. There are Al-Hada armed forces hospital and Prince Mansour hospital belonging to Armed Forces Hospitals. This study has been conducted only 5 major hospitals in ministry of health inside the Taif city which include:

King Abdul-Aziz specialist hospital is a tertiary center was built at 1422H with 500 beds capacity.
Mental health hospital is the first mental hospital established in kingdom of Saudi Arabia. It was built at 1378H with 750 beds capacity.

Maternity and children hospital is managing all patients under 12 years old with 124 beds capacity.

King Faisal hospital is the one of major hospital in Taif city with 500 beds capacity.

The capacity of obstetrics and gynecology hospital is 300 beds.

Study population:

The researcher selected Physicians in all hospital in ministry of health (5 hospitals) in Taif city. The hospitals are including:
King Abdul-Aziz specialist's hospital.
King Faisal hospital.
Obstetrics and Gynecology hospitals.
Maternity and children hospital.
Mental health hospital.

Inclusion Criteria: physicians in different hospital departments at ministry of health (medicine, surgery, obstetrics and gynecology, pediatric, emergency medicine ect…) .

Exclusion Criteria: Paramedical specialties, primary health care doctors.

Sample size:

The researcher went to the directorate of health affairs and the statistics of the number of doctors in five hospitals has been 1203 doctors. Then, the final calculated sample size through the epi program has been (291) doctors with 95% confidence level.

Sampling technique:

The researcher has been using simple random sample technique

The researcher obtained the approval from family medicine program administrator, after that, The researcher has been Permission from the regional Research and Ethical Committee It has been delivered to hospitals. The researcher has been meeting a head of department and collected the total number of physicians and distribution from each hospital which are participate voluntarily in our study.

Data has been collected by using PHQ-9 Depression scale which has been filled by physicians.

The researcher selects all hospitals in Taif city which are include:
King Abdul-Aziz specialist's hospital.
King Faisal hospital.
Obstetrics and Gynecology hospital.
Maternity and children hospital.
Mental health hospital.

Study field: Study has been conducted over two-month period starting from the first February to the end of march in (2020)**.**

Data collection tools:

The researcher was used a questionnaire covering socio-demographic data and Patient Health Questionnaire-9 (PHQ-9).

The socio-demographic data contains 15 multiple-choice questions which include: Hospital name, Age, Sex, Marital state, Number of family, Specialty, Medical degree, Any history of diabetes mellitus, hypertension, cardiac disease and Other chronic disease, Take extra salary for psychiatric allowance, Take any kind of psychiatric medication, many hospital on call per month, satisfied about your specialty. It was written in English language and was valid from 3 consultant.

About the PHQ-9 depression questionnaire, The scale contains 9 multiple-choice questions, English versions. Scores for each item range from zero to three, and the global score for each scale range from zero to 27. To interpret the scores, it is considered

that, over 20 has been severe depression score,15 to19 Moderately severe ,10 to14 Moderate and 5 to 9 Mild Depression**.**

A Pilot study was carried out at Hospitals. This study has been conducted and all suggestions taken into consideration.

Collected data has been processed using SPSS v.20 software. Descriptive statistics will be performed. Percentages will be given for qualitative variables and Mean (SD) will be given for quantitative variables. The primary study outcome (Prevalence and of depression among physicians in major hospitals in Taif city, Saudi Arabia) will be presented as percentage and 95% CI.

Ethical consideration:
Permission from family medicine program was obtained.

Permission from the regional Research and Ethical Committee was be given the hospitals to conduct our study.
All the subjects has been participate voluntarily in the study.
Permission from directorate of health affairs in Taif.
Privacy of physician information and confidentiality has been maintained.

Full explanation about the study and its purpose was carried out to physicians to obtain their participation.
Budget: Self-funded

RESULTS:

A total of (291) physicians participated in the study out of invited 291 (response rate:100%) The researcher selected Physicians in all hospital in ministry of health (5 hospitals) in Taif city.

Table 1 Distribution of socio-demographic data to prevalence of depression among physicians in major hospitals. (Age, Gender, Nationality, Marital state, Number of Children, hospitals name).

	N	%
Age		
24-34	185	63.6
35-44	81	27.8
45 and older	25	8.6
Gender		
Female	93	32.0
Male	198	68.0
Nationality		
Non Saudi	84	28.9
Saudi	207	71.1
Marital state		
Married	188	64.6
Single	86	29.6
Divorce	13	4.5
Widow	4	1.4
Number of Children		
No one	116	39.9
One child	48	16.5
Two children	60	20.6
Three children	39	13.4
More than three children	28	9.6
Hospital name		
King Abdul-Aziz specialists hospital.	118	40.5
King Faisal hospital .	107	36.8
Maternity and children hospital.	40	13.7
Mental health hospital.	12	4.1
Obstetrics and Gynecology hospitals.	14	4.8

In our study showed that the only (63.6%)of the participated were(24-34)years while(27.8%)were(35-44), Male physicians were 198 (68.0%), while females constituted 93(32.0%) of the whole physicians. The physicians (71.1%) were Saudi while (28.9%) non-Saudi. Approximately more than half of participant married (64.6%) and

(29.6%) were single. The majority of the participated they had no children had were (39.9%), followed by two children were (20.6%). The majority of the participated from King Abdul-Aziz specialist's hospital were (40.5%) followed by King Faisal hospital were (36.8%).

Table2 Distribution of socio-demographic data to prevalence of depression among physicians in major hospitals. (Type of residency, Specialty, Medical degree, Do you have a history of , average number of patients have you seen daily, How many working shift do you have per month, How many hospital on-call per month, Are you satisfied about your specialty)

	N	%
Type of residency		
Private	132	45.4
Rented	159	54.6
Specialty		
Anesthesia	28	9.6
Dermatology	7	2.4
Emergency	26	8.9
ENT	8	2.7
Intensive Care Unit (ICU)	12	4.1
Medicine	101	34.7
Neurology	6	2.1
Obstetri and gynecology	14	4.8
Ophthalmology	2	0.7
Orthopedic	16	5.5
Pediatric	40	13.7
Psychiatry	11	3.8
Radiology	2	0.7
Surgery	14	4.8
urology	4	1.4
Medical degree		
General practitioner	51	17.5
Resident	93	32.0
Specialist	85	29.2
Consultant	62	21.3
Do you have a history of		
Diabetes mellitus	19	6.5
Hypertension	22	7.6
Cardiac disease	5	1.7
Bronchial asthma	40	13.7
Other chronic disease	38	13.1
Depression	58	19.9
Take any kind of psychiatric medication	33	11.3
What is the average number of patients have you seen daily?		
0 - 20	210	72.2
21- 40	61	21.0
41-60	13	4.5
More than 60	7	2.4
How many working shift do you have per month?		
Null	54	18.6
20-11	133	45.7
More than 20	104	35.7
How many hospital on-call per month?		
Null	75	25.8
1-3.	35	12.0
4-5.	67	23.0
More than 5	114	39.2
Are you satisfied about your specialty?		
No	67	23.0
Yes	224	77.0

Table 2 showed regarding type of residency more than half of participated (54.6%)they rented, follow by private residency were (45.4%). Regarding the specialty of physicians the physicians from the medicine department constituted 101(34.7%) , followed by those from pediatric 40(13.7%), but regarding medical degree of the physicians the resident degree constituted 93(32.0%) of physicians, followed by those specialist 85(29.2%) .Regarding the do you have a history of diseases the physicians have depression constituted 58(19.9%), regarding If you take any kind of psychiatric medication consisting (11.3%). Followed by those have bronchial asthma and other chronic disease constituted respectively (13.7%, 13.1%). Regarding what is the average numbers of patients have you seen daily the majority of physicians see daily from (0 - 20) constituted (72.2%), followed by from 21- 40 were(21.0%) , regarding number of shift you have per month from 20-11were (45.7%), but more than 20 were(35.7%), regarding number of the hospital on-call per month more than 5 consisting (39.2%), null were(25.8%) followed from 4-5 hospital were(23.0%). Regarding you satisfied about your specialty mostly yes were (77.0%) but No (23.0%)

Table 3 Distribution of the PHQ-9 depression questionnaire (the scale contains 9 multiple-choice questions, global score for each scale range from zero to 27).

Items			Several days		More than half of the days		Nearly every day		Chi-square	
	N	%	N	%	N	%	N	%	X^2	P-value
1) Little interest or pleasure in doing things?	68	23.4	151	51.9	55	18.9	17	5.8	131.529	0.000
2) Feeling down, depressed, or hopeless?	90	30.9	134	46.0	43	14.8	24	8.2	100.491	0.000
3) Trouble falling or staying asleep, or sleeping too much?	71	24.4	118	40.5	68	23.4	34	11.7	49.137	0.000
4) Feeling tired or having little energy?	21	7.2	167	57.4	57	19.6	46	15.8	172.162	0.000
5) Poor appetite or overeating?	104	35.7	113	38.8	46	15.8	28	9.6	73.055	0.000
6) Feeling bad about yourself - or that you are a failure or have let yourself or your family down?	124	42.6	105	36.1	37	12.7	25	8.6	99.309	0.000
7) Trouble concentrating on things, such as reading the newspaper or watching television?	119	40.9	116	39.9	38	13.1	18	6.2	112.918	0.000
8) Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?	165	56.7	90	30.9	23	7.9	13	4.5	204.162	0.000
9) Thoughts that you would be better off dead, or of hurting yourself in some way?	234	80.4	45	15.5	7	2.4	5	1.7	490.512	0.000

Regarding little interest or pleasure in doing things the table showed that, the majority of the participant was several days were (51.9%) followed by not at all (23.4%) X2(131.529). Regarding feeling down, depressed, or hopeless showed that, the majority of the participant was several days were (46.0%) followed by not at all (30.9%) X2 (100.491) . but regarding the trouble falling or staying asleep, or sleeping too much showed that, the majority of the participant was several days were (40.5%) followed by not at all (24.4%) X2 (49.137), while regarding Feeling tired or having little energy the table showed that, the majority of the participant was several days were (57.4%) followed by more than half of the days (19.6%) X2(131.529). Regarding poor appetite or overeating showed that, the majority of the participant was several days were (38.8%) followed by not at all (35.7%) X2(73.055). Regarding Feeling bad about yourself - or that you are a failure or have let yourself or your family down showed that, the majority of the participant was not at all were (42.6%) followed by several days (36.1%) X2(99.309), but regarding the Trouble concentrating on things, such as reading the newspaper or watching television showed that, the majority of the participant was not at all were (40.9%) followed by several days (39.9%) X2 (112.918).

Regarding the Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual showed that, the majority of the participant was not at all were (56.7%) followed by several days (30.9%) X2 (204.162) , but regarding the Thoughts that you would be better off dead, or of hurting yourself in some way showed that, the majority of the participant was not at all were (80.4%) X2 (490.512). Regarding the PHQ-9 criteria for depression all have a significantly high association (p = 0.001) with depression scores

Table 4 Distribution of the PHQ-9 scale prevalence of depression among physicians in major hospitals. (has been severe depression score, Moderately severe, Moderate and Mild Depression).

PHQ-9				Score	
		N	%	Range	Mean±SD
Negative		65	22.3	0-25	8.305±4.933
Minimal		127	43.6		
Mild		63	21.6		
Moderate		27	9.3		
Severe		9	3.1		
Total		291	100.0		
Chi-square	**X^2**	140.838			
	P-value	<0.001*			

The prevalence of depression in the physicians is (22.3%). 65 out of the 291 respondents met the PHQ-9 negative criteria for depression. Of the 291 participants127 (43.6 %) scored into the minimal depression category, also scored into the mild depression category, 21.6 % (63/291), but into the moderate depression category 9.3% (27/291) into the severe depression category (3.1%) and the data ranged from(0- 25) by mean +SD (8.305±4.933), also show that X2(140.838) and is a significant while p-value =<0.001

Figure 1 Histogram with normal curve description of the PHQ-9 score prevalence of depression and frequency

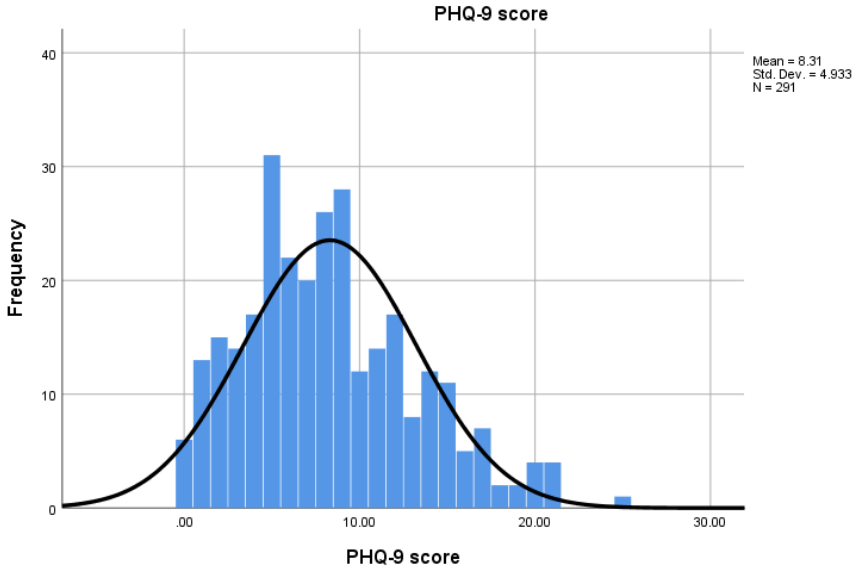

Figure 2 Distribution of the PHQ-9 scale prevalence of depression among physicians in major hospitals. (negative, minimal, mild, moderate and severe depression score).

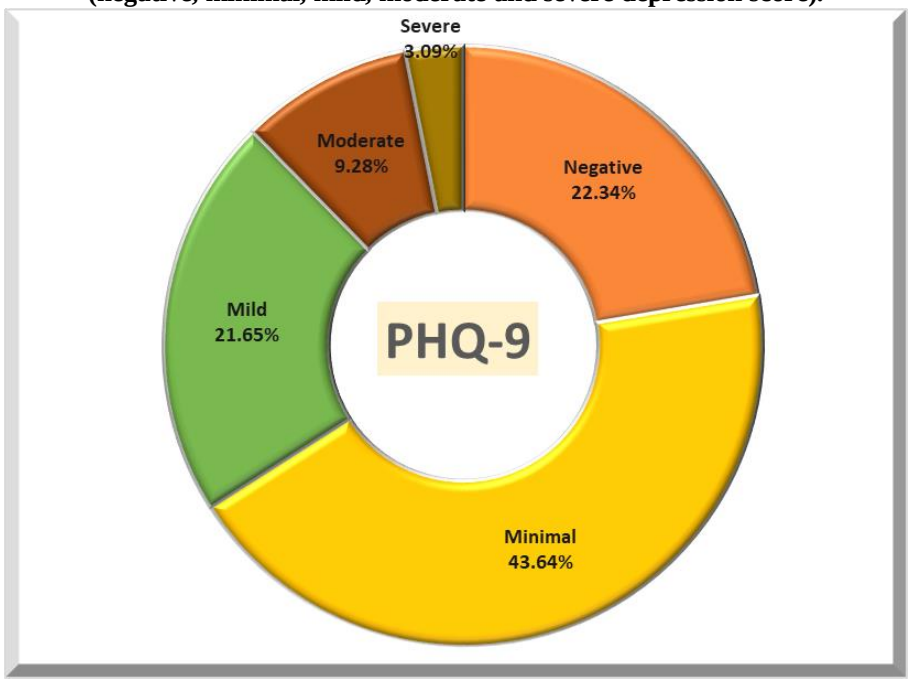

Table 5 Distribution the relation of socio-demographic data to prevalence of depression among physicians in major hospitals. (Age, Gender, Nationality, Marital state, Number of Children, Type of residency, Specialty, Medical degree) and PHQ-9 score

	PHQ-9 score					F or T	ANOVA or T-test	
		N	Mean	±	SD		test value	P-value
Age	**24-34**	185	8.9730	±	4.88835	F	4.891	0.008*
	35-44	81	7.2716	±	4.86830			
	45 and older	25	6.7200	±	4.71275			
Gender	**Female**	93	8.7419	±	4.46217	T	1.034	0.302
	Male	198	8.1010	±	5.13769			
Nationality	**Non Saudi**	84	7.4286	±	3.96760	T	-2.180	0.030*
	Saudi	207	8.6618	±	5.24188			
Marital state	**Married**	188	7.9681	±	5.24573	F	1.064	0.365
	Single	86	8.7791	±	4.43091			
	Divorce	13	9.3077	±	3.27579			
	Widow	4	10.7500	±	3.50000			
Number of Children	**No one**	116	8.3707	±	4.31283	F	2.057	0.087
	One child	48	9.7917	±	5.73514			
	Two children	60	7.1500	±	4.08729			
	Three children	39	7.8462	±	5.04995			
	More than three children	28	8.6071	±	6.72386			
Type of residency	**Private**	132	8.9697	±	5.08694	T	2.104	0.036*
	Rented	159	7.7547	±	4.74771			
Specialty	**Anesthesia**	28	9.0357	±	5.04412	F	2.470	0.003*
	Dermatology	7	4.7143	±	2.28869			
	Emergency	26	9.6538	±	5.01153			
	ENT	8	5.3750	±	2.55999			
	Intensive Care Unit (ICU)	12	5.2500	±	3.22279			
	Medicine	101	8.1386	±	5.07549			
	Neurology	6	7.6667	±	2.87518			
	Obstetric and gynecology	14	11.2143	±	5.22094			
	Ophthalmology	2	14.0000	±	1.41421			
	Orthopedic	16	8.0625	±	5.49507			
	Pediatric	40	8.4000	±	4.49387			
	Psychiatry	11	4.5455	±	3.07778			
	Radiology	2	7.0000	±	4.24264			
	Surgery	14	10.4286	±	4.27361			
	urology	4	11.5000	±	8.18535			
Medical degree	**General practitioner**	51	8.7647	±	5.13649	F	3.909	0.009*
	Resident	93	9.5269	±	4.89141			
	Specialist	85	7.3882	±	4.67286			
	Consultant	62	7.3548	±	4.83531			

Regarding age, results show a significant relation between PHQ-9 score and age were F=4.891and P-value=0.008, increase (in 24-34 years), the mean +SD were (8.9730±4.88835).

Regarding gender show no significant relation between PHQ-9 score and gender were T=1.034 and P-value=0.302, increase in female the mean +SD were (8.7419±4.46217).

Regarding Nationality there is a significant relation between PHQ-9 score and Nationality were T=-2.180and P-value=0.030, increase (Saudi), the mean +SD respectively were (8.6618±5.24188)

Regarding marital status there is no significant relation between PHQ-9 score and marital status were F=1.064and P-value=0.365, increase (in widow), the mean +SD respectively were (10.7500±3.50000)

Regarding No of children, shows no significant relation between PHQ-9 score and no of children were F=2.057. and P-value=0.087, increase (One child), the mean +SD respectively were (9.7917 ±5.73514). About Type of residency there is a significant relation between PHQ-9 score and Type of residency were T=2.104 and P-value=0.036 increase (in private), the mean +SD respectively were (8.9697±5.08694)

Regarding specialty, shows a significant relation between PHQ-9 score and specialty were F=2.470, and P-value=0.003, increase (Ophthalmology), the mean +SD respectively were (14.0000±1.41421). About medical degree there is a significant relation between PHQ-9 score and medical degree were F=3.909 and P-value=0.009 increase (in residents), the mean +SD respectively were (9.5269±4.89141)

Table 6 Distribution the relation of socio-demographic data to prevalence of depression among physicians in major hospitals. (Do you have a history of , Take any kind of psychiatric medication ,average number of patients have you seen daily, How many working shift do you have per month, How many hospital on-call per month, Are you satisfied about your specialty) and PHQ-9 score

		PHQ-9 score				F or T	ANOVA or T-test	
		N	Mean	±	SD		test value	P-value
Diabetes mellitus	**No**	272	8.2757	±	4.85902	T	-0.393	0.694
	Yes	19	8.7368	±	6.03547			
Hypertension	**No**	269	8.0855	±	4.88259	T	-2.693	0.007*
	Yes	22	11.0000	±	4.85994			
Cardiac disease	**No**	286	8.2203	±	4.92866	T	-2.253	0.025*
	Yes	5	13.2000	±	1.78885			
Bronchial asthma	**No**	251	8.0398	±	4.96451	T	-2.321	0.021*
	Yes	40	9.9750	±	4.43464			
Other chronic disease	**No**	253	8.1186	±	5.00731	T	-0.572	0.568
	Yes	38	9.5526	±	4.25979			
Take any kind of psychiatric medication	**No**	258	8.1318	±	4.88208	T	-1.688	0.092
	Yes	33	9.6667	±	5.19415			
average number of patients "seen'/daily	**0 - 20**	210	7.8524	±	4.73631	F	3.028	0.030*
	21- 40	61	9.0000	±	5.08593			
	41-60	13	10.6154	±	4.78781			
	More than 60	7	11.5714	±	7.36788			
working shift/month	**Null**	54	7.0741	±	3.98985	F	4.190	0.016*
	20-11	133	8.0150	±	4.73060			
	More than 20	104	9.3173	±	5.45104			
Hospital on-call/month	**Null**	75	7.1600	±	4.13633	F	5.170	0.002*
	1-3.	35	7.0857	±	4.29344			
	4-5.	67	7.9552	±	5.02850			
	More than 5	114	9.6404	±	5.26657			
Satisfaction about specialty	**No**	67	11.7910	±	5.48976	T	7.136	0.000*
	Yes	224	7.2634	±	4.24130			

Regarding diabetes mellitus and other chronic disease results show no significant relation between PHQ-9 score and diabetes mellitus and other chronic disease were respectively (T=-0.393, -0.572) and P-value=0.694,0.568 increase

in answer Yes), the mean +SD were (8.7368±6.03547, 9.5526±4.25979).

Regarding hypertension, cardiac disease and bronchial asthma show a significant relation between PHQ-9 score and hypertension, cardiac disease and bronchial asthma were respectively (T= -2.693, -2.253, -2.321) and P-value=0.007, 0.025, 0.021, increase (in answer Yes) the mean +SD were (11.0000±4.85994, 13.2000±1.78885, 9.9750±4.43464).

Regarding take any kind of psychiatric medication there is no significant relation between PHQ-9 score and take any kind of psychiatric medication were T=-1.688 and P-value=0.092, increase (in answer Yes), the mean +SD were (9.6667±5.19415)

Regarding average number of patients "seen'/daily there is a significant relation between PHQ-9 score and average number of patients "seen'/daily were F=3.028 and P-value=0.030, increase (in more than 60), the mean +SD respectively were (11.5714±7.36788)

Regarding working shift/month, shows a significant relation between PHQ-9 score and working shift/month were F=4.190. and P-value=0.087, increase (one child), the mean +SD respectively were (9.7917±5.73514). About type of residency there is a significant relation between PHQ-9 score and type of residency were T=2.104 and P-value=0.016 increase (more than 20), the mean +SD respectively were (9.3173±5.45104)

Regarding hospital on-call/month, shows a significant relation between PHQ-9 score and hospital on-call/month were F=5.170, and P-value=0.002, increase (Ophthalmology), the mean +SD respectively were (14.0000±1.41421). About medical degree there is a significant relation between PHQ-9 score and medical degree were F=3.909 and P-value=0.009 increase (in null), the mean +SD respectively were (7.1600±4.13633)

Regarding satisfaction about specialty, shows a significant relation between PHQ-9 score and Satisfaction about specialty were T=7.136. And P-value=0.000, increase (in answer no), the mean +SD respectively were (11.7910±5.48976).

Table 7 : Describe of the Multi Logistic Regression between prevalence of depression by depend variable PHQ-9 (diabetes mellitus, hypertension, cardiac disease, bronchial asthma, other chronic disease, Depression, take any kind of psychiatric medication, average number of patients "seen'/daily, working shift/month, hospital on-call/month, Satisfaction about specialty) and physicians in major hospitals .

Multiple logistic regression (depend variable PHQ-9)	B	S.E.	Wald	P-value	Odd ratio	95% C.I.for Odd ratio	
						Lower	Upper
Diabetes mellitus	0.155	0.714	0.047	0.828	1.167	0.288	4.728
Hypertension	0.717	0.844	0.721	0.396	2.047	0.392	10.707
Cardiac disease	20.067	17531.818	0.000	0.999	518610127.432	0.000	
Bronchial asthma	0.997	0.652	2.342	0.126	2.711	0.756	9.722
Other chronic disease	0.123	0.513	0.057	0.811	1.131	0.413	3.092
Depression	-0.208	0.370	0.318	0.573	0.812	0.394	1.675
Take any kind of psychiatric medication	0.166	0.562	0.087	0.768	1.180	0.393	3.549
average number of patients "seen'/daily	0.471	0.290	2.644	0.104	1.601	0.908	2.824
working shift/month	0.136	0.211	0.412	0.521	1.145	0.757	1.733
Hospital on-call/month	0.009	0.127	0.005	0.944	1.009	0.787	1.293
Satisfaction about specialty	-1.134	0.472	5.775	0.016*	0.322	0.128	0.811

Regarding history of diabetes mellitus no significant relation between effect of diabetes mellitus and depression were P-value=0.828, and (Odd = 1.167, 95%CI = 0.288-4.728). while (B=0.155, S.E.= 0.714 and Wald=0.047). Regarding hypertension no significant Positive affect of hypertension and depression were P-value=0.396, and (Odd = 2.047, 95%CI = 0.392-10.707). while (B=0.717, S.E.= 0.844 and Wald=0.721). Regarding cardiac disease no significant Positive affect of cardiac disease and depression were P-value=0.999, and (Odd = 518610127.432, 95%CI = 0.000-). While (B=20.067, S.E.= 17531.818 and Wald=0.000).

Regarding bronchial asthma no significant Positive affect of Bronchial asthma and depression were P-value=0.126, and (Odd = 2.711, 95%CI = 0.756-9.722). while (B=0.997, S.E.= 0.652 and Wald=2.342. Regarding history of other chronic disease, no significant relation between effect of other chronic disease and depression were P-value=0.811, and (Odd = 1.131, 95%CI = 0.413-3.092). while (B=0.123, S.E.= 0.513and Wald=0.057). Regarding depression no significant negative affect of depression and depression were P-value=0.573, and (Odd = 0.812, 95%CI = 0.394-1.675). while (B=-0.208, S.E.= 0.370 and Wald=0.318).

Regarding take any kind of psychiatric medication no significant Positive affect of take any kind of psychiatric medication and depression were P-value=0.768, and (Odd = 1.180, 95%CI = 0.393-3.549). while (B=0.166, S.E.=0.562 and Wald=0.087). Regarding average number of patients "seen'/daily no significant Positive affect of average number of patients "seen'/daily and depression were P-value=0.104, and (Odd = 1.601, 95%CI = 0.908-2.824). while (B=0.471, S.E.= 0.290 and Wald=2.644. Regarding working shift/month no significant Positive affect of working shift/month and depression were P-value=0.521, and (Odd = 1.145, 95%CI = 0.757-1.733). while (B=0.136, S.E.= 0.211and Wald=0.412. Regarding hospital on-call/month no significant Positive affect of hospital on-call/month and depression were P-value=0.944, and (Odd = 1.009, 95%CI = 0.787-1.293). while (B=0.009, S.E.= 0.127 and Wald=0.005. Regarding satisfaction about specialty a significant negative affect of satisfaction about specialty and depression were P-value=0.016, and (Odd = 0.322, 95%CI = 0.128-0.811). while (B=-1.134, S.E.= 0.472and Wald=5.775

DISCUSSION:

A total of (291) physicians participated in the study out of invited 291 The researcher selected Physicians in all hospital in ministry of health 5 hospitals in Taif city, Taif city is located in the West of Saudi Arabia. One of the most important characteristics of Taif is its location, which is characterized by proximity to Makkah. In our study showed that the only (63.6%) of the participated were (24-34) years while. Fifty physicians (71.1%), approximately more than half of participant married (64.6%). The majority of the participated from King Abdul-Aziz specialist's hospital were (40.5%). showed regarding type of residency more than half of participated (54.6%) they rented, regarding you have a history of diseases the physicians have depression constituted (19.9%), Regarding the average numbers of patients have you seen daily the physicians see daily from constituted (72.2%), regarding satisfied about your specialty No were (23.0%). (see table 1,2). In similar study the prevalence of depression among primary health care physicians was lower than expected, which is characterized by Makkah being a holy city and stress alleviation easily accessible by visiting the Haram Makkah AlMokarramah. This was in contrast to other studies showing lower prevalence of depressions by using different scales and different study groups.[32]

A translated Arabic version of the PHQ–9 scale was used for the study. This version has been previously tested its validity and reliability as a suitable tool for the detection of depressive symptoms in the Saudi Arabian context [33]. The PHQ–9 is self-administered instrument consists of nine items (from 1 to 9), each is based on a four-point Likert-type scale that scores for the presence of depression symptoms from zero to three as follow: "not at all", "several days", "more than half the days", and "nearly every day", respectively. Participants diagnosed with depression if their responses to the below depressive symptoms criteria were met and existing for the past two weeks. Therefore, major depressive was accounted for if the answer to item number 1 or 2 and four or more of the remaining PHQ–9 items recorded at least as "more than half the days". Based on these criteria, a PHQ–9 score of ≥10 was used as a diagnostic cutoff point for depressive symptoms as previously recommended in the literature [33,34]. These studies supported our study where little interest or pleasure in doing things the majority of the participant was several days were (51.9%) also feeling down, depressed, or hopeless (46.0%), the trouble falling or staying asleep, or sleeping too much (40.5%), feeling tired or having little energy (57.4%) and poor appetite or overeating (38.8%) also found in the PHQ–9 score the not at all feeling bad about yourself - or that you are a failure

or have let yourself or your family down (42.6%), the Trouble concentrating on things, such as reading the newspaper or watching television (40.9%), moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual (56.7%), thoughts that you would be better off dead, or of hurting yourself in some way (80.4%), the PHQ-9 criteria for depression all have a significantly high association (p = 0.001) with depression scores. (see table 3)

Regarding depression PHQ-9 scale the majority of the physicians had minimal depression were (43.6%), followed by respectively negative, mild, Moderate and severe were (22.3%, 21.6%, 9.3 %,3.1%) and the data ranged from (0-25) by mean +SD (8.305±4.933). a significant relation between depression PHQ-9 scale Chi-square X2140.838 and p-value =0.001. Similar findings were reported by Sathyanath SM et al depression PHQ-9 scale i.e. about minimal depression36.5% [35], whereas Bodhare TN et al reported it as 45%.[36] The possible explanation for this variation could be attributed to differences in the screening instruments used and social and cultural factors. In contrast, a study done in Pakistan found that the prevalence rate varied from 49% to 66% among medical students.[32] Another study has shown that 39.4% of the medical students are depressed by using the instrument Depression Anxiety Stress Scale. A study among adolescents in India showed the prevalence among college going girls as 29%. Another study done in Iran among high school and Pre-University students found out that 34% of them were depressed according to cut- off score of BDI 16.[37] (See table 4)

We found the PHQ-9 to be an easy measure to use for screening for prevalence of depression among physicians in major hospitals, the content of the items was neither offensive nor confusing; on the contrary, most subjects with depression found the items informative .

This study has further described current distribution of depression based on age, Gender, Nationality, Marital state, Number of Children, Type of residency, Specialty, Medical degree. A significant relation between the Socio-demographic and the presence of depression by PHQ-9 score as indicated by age, nationality, type of residency, Specialty and medical degree. Of the five rural Indian community-based studies, three reported a high prevalence of depression among physicians. All these studies used the of the Depression same scale (PHQ-9 score) and using different scales for diagnosis of depression. A cross-sectional community-based study conducted by Maulik et al. among 82 persons aged over 60 years in a rural area of Hooghly district of West Bengal estimated the prevalence of depression as 53.7% [38]. This high prevalence may be explained by a small sample size and the tool (Bengali version of the GDS-15) used to identify depression. Reddy et al. estimated the prevalence of depression as 47% from the rural area of Valadi of TamilNadu.[39] Deshpande et al. conducted a community-based study among physicians in six villages in Maval Taluka of Pune, Maharashtra and estimated the prevalence as 41.1%.[39] Physicians` age was a significant factor associated with depression in the present study. This result was expected, as other studies conducted among physicians and use the same scale showed that more experiences lead to less stress and therefore less depression.[32]. Physician`s nationality was a significant predictor for depression in the current study. This result was expected, in accordance to other studies using same scales and using different scales conducted among physicians [23], but physicians` marital status was not a significant predictor for depression. This result was expected, and in agreement with other studies carried out in same scales and using different scales on same study groups. [22]

Depression was no significant relation reported among physician's gender. This result was not expected, and in agreement with other studies using PHQ-9 scale conducted among physicians.[38]

Type of residency of physicians` was a significantly associated with depression among physicians in the present study. This result was expected as in accordance to other studies using PHQ-9 scale conducted among physicians [32], and also in specialty and medical degree of physicians was a significantly associated with depression among physicians in the present study. (see Table 5)

In the present study, we indented a combination of predicted factors associated with depression. Physicians who have hypertension to get depressive symptoms than other while Mean ±SD (11.0000±4.85994). Also, cardiac disease and bronchial asthma, this association has been reported by many authors [39]. However, our result failed to determine a significant association between depression and other chronic disease and take any kind of psychiatric medication.

However, our result found there is a significant relation between PHQ-9 score and average number of patients "seen'/daily were F=3.028 and P-

value=0.030, increase (in more than 60), the mean +SD respectively were (11.5714±7.36788), previous studies related increasing average number of depression whine increasing average number of patients "seen'/daily [15,25]. The observed among our Physicians a significant relation of depression those having working shift/month, Hospital on-call/month, Satisfaction about specialty, (P-value=0.087, 0.002, P-value=0.000). Similar findins have been observed in Korea, and India [40] (see table 6)

The Multi Logistic Regression between prevalence of depression by depend variable PHQ-9 (diabetes mellitus, hypertension, cardiac disease, bronchial asthma, other chronic disease, Depression, take any kind of psychiatric medication, average number of patients "seen'/daily, working shift/month, hospital on-call/month, Satisfaction about specialty) and physicians in major hospitals. Show no significant differences in the depend variable PHQ-9

(Diabetes mellitus, Hypertension, Cardiac disease, Bronchial asthma, Other chronic disease, Depression, Take any kind of psychiatric, medication, average number of patients "seen'/daily, working shift/month, Hospital on-call/month no significant affect Chronic diseases and depression) were (P-value=0.828, 0.396,0.999,0.126,0.811,0.573,0.768,0.104,0.521.0.944).

This differs from the studies done in 2015 study was done to assess prevalence of depression or depressive symptoms Among Resident Physicians a systematic Review and meta-analysis. The data extracted from 31 cross-sectional studies (9447individuals) and 23 longitudinal studies (8113individuals) between January 1963 and September 2015.Three studies used clinical interviews and 51 used self-report instruments. The overall pooled prevalence of depression or depressive symptoms was28.8% (4969/17560 individuals, 95% CI,25.3% -32.5%), with high between-study heterogeneity (Q=1247, I2 =95.8%, P<.001). Meta-analytic pooling of the prevalence estimates of depression or depressive symptoms reported by the 54 studies yielded a summary prevalence of 28.8% (4969/17560 individuals,95% CI, 25.3%-32.5%), with significant evidence of between study heterogeneity (Q=1247, P<.001, I2 =95.8%) [41]. But show a significant positive relation differences in the Satisfaction about specialty of PHQ-9 while P-value=0.016 (Odd = 0.322, 95%CI = 0.128-0.811). While (B=-1.134, S.E.= 0.472 and Wald=5.775). Similarly, another study showed the same result [42] (see table 7)

CONCLUSION:

Depression is highly prevalent among physicians in major hospitals. Our findings point to the importance of broad screening and psychiatric counseling of this vulnerable physicians in major hospitals. Depression is highly prevalent among physicians one of the risks seeing more numbers of patients, therefore; need more numbers of physicians to be assigned in major hospitals to take this load out. Majority of the cases were mild to moderate cases. As screening tools, PHQ-9 correlate. Our results need further validation by conducting more studies.

REFERENCES:

1. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(6):593–602.
2. Miller MN, McGowen KR. The Painful Truth: Physicians are not invincible. Southern Medical Journal 2000; 93(10): 966-973.
3. World Health Organization. (2012). *World Health Day 2012: ageing and health: toolkit for event organizers* (No. WHO/DCO/WHD/2012.1). World Health Organization.
4. Schneider, S. E., & Phillips, W. M. Depression and anxiety in medical, surgical, and pediatric interns. *Psychological reports*, 1993;*72*(3_suppl), 1145-1146.
5. Joules N, Williams DM, Thompson AW. Depression in resident physicians: a systematic review. *Open J Depress.* 2014;03(03):89–100
6. West CP, Huschka MM, Novotny PJ, et al. Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *JAMA*. 2006;296(9):1071–1078.
7. West CP, Tan AD, Habermann TM, Sloan JA, Shanafelt TD. Association of resident fatigue and distress with perceived medical errors. *JAMA*. 2009;302(12):1294–1300.
8. Buddeberg-Fischer B, Klaghofer R, Buddeberg C. Stress at work and well-being in junior residents [in German]. *Z Psychosom Med Psychother*. 2005;51(2):163–178.
9. Yousuf A, Ishaque S, Qidwai W. Depression and its associated risk factors in medical and surgical post graduate trainees at a teaching hospital: a cross sectional survey from a developing country. *J Pak Med Assoc*. 2011;61(10):968–973.
10. Hsu K, Marshall V. Prevalence of depression and distress in a large sample of Canadian

residents, interns, and fellows. *Am J Psychiatry*. 1987;144(12):1561–1566.
11. Hsieh Y-H, Hsu C-Y, Liu C-Y, Huang T-L. The levels of stress and depression among interns and clerks in three medical centers in Taiwan: a cross-sectional study. *Chang Gung Med J*. 2011;34(3):278–285.
12. Shanafelt TD, Sloan JA, Habermann TM. The well-being of physicians. *Am J Med*. 2003;114(6):513–519.
13. Simon GE, VonKorff M, Piccinelli M, Fullerton C, Ormel J: An international study of the relation between somatic symptoms and depression. N Engl J Med 1999, 341(18):1329–1335.
14. Wallace, J. E. Mental health and stigma in the medical profession. *Health:*, 2012;*16*(1), 3-18.
15. Arnetz, B. B. Psychosocial challenges facing physicians of today. *Social science & medicine*, 2001;*52*(2), 203-213.
16. Coomber, S., Todd, C., Park, G., Baxter, P., Firth-Cozens, J., & Shore, S. Stress in UK intensive care unit doctors. *British journal of anaesthesia*, 2002;*89*(6), 873-881.
17. Wada, K., Yoshikawa, T., Goto, T., Hirai, A., Matsushima, E., Nakashima, Y., ... & Hosaka, T. Association of depression and suicidal ideation with unreasonable patient demands and complaints among Japanese physicians: a national cross-sectional survey. *International journal of behavioral medicine*, 2011;*18*(4), 384-390.
18. AlShamlan, N. A., AlShamlan, R. A., AlShamlan, A. A., AlOmar, R. S., AlAmer, N. A., Darwish, M. A., & Sebiany, A. M. Prevalence of depression and its associated factors among clinical-year medical students in Eastern Province, Saudi Arabia. *Postgraduate medical journal*, 2020;*96*(1136), 343-348.
19. Al Salman, Z. H., Al Debel, F. A., Al Zakaria, F. M., Shafey, M. M., & Darwish, M. A. Anxiety and depression and their relation to the use of electronic devices among secondary school students in Al-Khobar, Saudi Arabia, 2018–2019. *Journal of family & community medicine*, 2020;*27*(1), 53.
20. Gaynes, B. N., Gavin, N., Meltzer-Brody, S., Lohr, K. N., Swinson, T., Gartlehner, G., ... & Miller, W. C. (2005). Perinatal depression: Prevalence, screening accuracy, and screening outcomes: Summary. *AHRQ evidence report summaries*.
21. World Health Organization. (2001). The World Health Report 2001: Mental health: new understanding, new hope.
22. Stewart, W. F., Ricci, J. A., Chee, E., Hahn, S. R., & Morganstein, D. Cost of lost productive work time among US workers with depression. *Jama*, (2003; *289*(23), 3135-3144.
23. Gadit, A. A. M., & Mugford, G. Prevalence of depression among households in three capital cities of Pakistan: need to revise the mental health policy. *Plos one*, 2007; *2*(2), e209.
24. Mirza, I., & Jenkins, R. Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. *Bmj*, 2004;*328*(7443), 794.
25. Al-Kuwari, M. G., Al-Emadi, N., & Flamerzi, S. Prevalence and determinants of depression among primary health care attendees in Qatar 2008. *World Family Medicine Journal: Incorporating the Middle East Journal of Family Medicine*, 2010;*99*(288), 1-6.
26. Gong, Y., Han, T., Chen, W., Dib, H. H., Yang, G., Zhuang, R., ... & Lu, Z. Prevalence of anxiety and depressive symptoms and related risk factors among physicians in China: a cross-sectional study. *PloS one*, (2014;*9*(7), e103242.
27. Kumar, G. S., Jain, A., & Hegde, S. Prevalence of depression and its associated factors using Beck Depression Inventory among students of a medical college in Karnataka. *Indian journal of Psychiatry*, 2012;*54*(3), 223.
28. Cheung, T., & Yip, P. S. Depression, anxiety and symptoms of stress among Hong Kong nurses: a cross-sectional study. *International journal of environmental research and public health*, 2015;*12*(9), 11072-11100.
29. Schmidt DR, Dantas RA, Marziale MH. Anxiety and depression among nursing professionals who work in surgical units. Revista da Escola de Enfermagem da USP. 2011 Apr;45(2):487.
30. Abbas MA, Abu Zaid LZ, Hussaein M, Bakheet KH, AlHamdan NA. Anxiety and depression among nursing staff at king fahad medical city, Kingdom of Saudi Arabia. J Am Sci. 2012;8(10):778-94.
31. Kingdom of Saudi Arabia. Taif Governorate. Available at: http://www.taifcity.gov.sa.
32. Levine, R. E., & Bryant, S. G. The depressed physician: a different kind of impairment. *Hospital Physician*, 2000;*36*(2), 67-73.
33. Seo, J. G., & Park, S. P. Validation of the Patient Health Questionnaire-9 (PHQ-9) and PHQ-2 in patients with migraine. *The journal of headache and pain*, 2015;*16*(1), 1-7.
34. Cassin, S., Sockalingam, S., Hawa, R., Wnuk, S., Royal, S., Taube-Schiff, M., & Okrainec, A. Psychometric properties of the Patient Health Questionnaire (PHQ-9) as a depression screening tool for bariatric surgery

candidates. *Psychosomatics*, 2013;*54*(4), 352-358.
35. Sanjay, T. V., Yannick, P. P., Madhusudan, M., Masthi, N. R. R., & Gangaboraiah, B. Depression and its associated factors among elderly patients attending rural primary health care setting. *International Journal of Community Medicine and Public Health*, 2017;*4*(2), 471.
36. Bodhare, T. N., Kaushal, V., Venkatesh, K., & Anil Kumar, M. Prevalence and risk factors of depression among elderly population in a rural area. *Perspect Med Res*, 2013;*1*(1), 11-15.
37. Vaidya, P. M., & Mulgaonkar, K. P. PREVALENCE OF DEPRESSION ANXIETY & STRESS IN UNDERGRADUATE MEDICAL STUDENTS & ITS CO RELATION WITH THEIR ACADEMIC PERFORMANCE. *Indian Journal of Occupational Therapy (Indian Journal of Occupational Therapy)*, 2007;*39*(1).
38. Maulik, S., & Dasgupta, A. Depression and its determinants in the rural elderly of West Bengal-a cross sectional study. *Int J Biol Med Res*, 2012;*3*(1), 1299-1302.
39. Deshpande, S. S., Gadkari, M., & Raje, S. S. (2011). Screening for depression and its risk factors in geriatric population: A rural community based study. *Asian Journal of Psychiatry*, *4*(4), 284-287.
40. Sidana S, Kishore J, Ghosh V, Gulati D, Jiloha RC, Anand T. Prevalence of depression in students of a medical college in New Delhi : A cross-sectional study. Australas Med J. 2012;5:247–50
41. Mata DA, Ramos MA, Bansal N, Khan R, Guille C, Di Angelantonio E, Sen S. Prevalence of depression and depressive symptoms among resident physicians: a systematic review and meta-analysis. Jama. 2015 Dec 8;314(22):2373-83.
42. Lin YK, Lin C, Lin BY, Chen D. Medical students' resilience: a protective role on stress and quality of life in clerkship. BMC Med Educ. BMC Medical Education; 2019;19:473.