

Impact of Prevalence of depression among physicians in major hospitals in Makkah Al-Mukarramah Saudi Arabia 2021

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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, depression among physicians during the COVID-19 pandemic in the Saudi Arabia are not well described and their modifiable causes are poorly understood. During their first year of medical residency (internship), of training physicians in the Saudi Arabia suffer at least one depression episode whether there is a similar increase of depression among first year residents Saudi Arabia 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. **Aim of study:** To Prevalence of depression among physicians in major hospitals in Makkah Al-Mukarramah Saudi Arabia 2021. **Methods** this was a Cross-sectional study among physicians in major hospitals in Makkah Al-Mukarramah Saudi Arabia , this study has be conducted only 3 major hospitals in ministry of health inside the Makkah Al-Mukarramah city (in King Abdul-Aziz Specialist Hospital, King Faisal Hospital and Ajjad General Hospital), a sample size through the epi program was (291) doctors. The researcher has been using 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 Conclusion** the studies demonstrates of existing evidence confirming the incidence of depressive disorders anxiety symptoms among physicians during

the COVID-19 pandemic and also 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.

Keywords: Prevalence, depression, physicians, Saudi Arabia, Makkah.

Introduction

World Health Organization Physicians represent the first line in the fight against the pandemic [1]. This has come with significant effects on psychological well-being in terms of depression, anxiety, or stress [2]. Recent local and international studies have shown that many HCWs already experience depressive and anxiety-related symptoms as well as insomnia [3]. the study's showed that Physicians depression prevalence during COVID-19 was highest [4].

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.[5]

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 unflinching understanding and competence, to be compassionate and concerned, and to offer universally a hit care in a cost-powerful manner However, appraisals of depression or depressive burdensome manifestations change across studies, from 3% to 60%.[6] Studies additionally report clashing discoveries about resident depression depending on specialty, postgraduate year, sex, and different characteristics.[7] 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.[8] 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.[9]

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.[10] 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.[11]. 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 need 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 [12]. 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.[13]

Literature Review

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 [14]. Health Report of WHO, almost 15% of patients with significant depression have lifetime danger of ending by suicide [15]. late estimates are as low as 4%. In the United States, depression prevalence has been accounted for around 9% in general population [16], and fluctuating around 5-13% among adult patients visiting primary care [17]. In Europe, the general prevalence announced is 8.5%, of which ladies normal around 10% and men at 6.6% [18]. Globally occurrence of depression has been accounted for as expanding, in the most recent decade [19]. In developing countries, 10-44% experience the depression and anxiety disorders and anxiety problems, and under 35% of the depressed receive medical care [20]. Pakistan has a general prevalence of 34% [21]. In Qatar, the pervasiveness is 27.8% [22]. 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 to 10,000 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 grumbings 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) [23]. 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 [24].

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 research 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.[25]

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 [26].

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 [27].

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% [28].

Rationale:

According to the researcher's knowledge, there was no much research about prevalence of depression among physicians in different specialties in Makkah Al-Mukarramah we conclude that the levels and correlates of depression among physicians in KSA healthcare systems reveal that their experiences are like those of their colleagues around the world. It is not our place to speculate about specific mitigation measures that healthcare systems may wish to pursue to alleviate the burden of anxiety and depression among healthcare workers. Instead, we trust that our findings will help develop such measures and underscore the need to help physicians bear the psychological burden of combating COVID-19 pandemic and similar events in the future.

Aim of the study

To assess the Prevalence of depression among physicians in major hospitals in Makkah Al-Mukarramah Saudi Arabia 2021.

Objectives:

To estimate prevalence rate of depression among physicians in different specialties selected in major hospitals, in Makkah Al-Mukarramah Saudi Arabia 2021.

Subjects and methods

Study design:

Cross-sectional study.

Study setting / study area:

Makkah Al-Mukarramah city is located in the Saudi Arabia. The population of the province in 2435 is estimated at 103.8 thousand people, 12.79% of the total population of the region [29]. One of the most important characteristics of Makkah Al-Mukarramah 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 [29]

In Makkah Al-Mukarramah , there are 3 major hospitals belonging to ministry of health inside the city and 11 peripheral hospitals outside Makkah city. include: (in King Abdul-Aziz, Specialist Hospital, King Faisal Hospital and Ajyad General Hospital),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 manage all patients under 12 years old with 300 beds capacity.

Study population:

The researcher selected Physicians in all hospital in ministry of health (3 hospitals) in Makkah city. The hospitals are included:

King Abdul-Aziz, Specialist Hospital, King Faisal Hospital and Ajyad General 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 3 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 Makkah city which are include:

King Abdul-Aziz, Specialist Hospital

King Faisal Hospital

Ajyad General Hospital

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.24 software. Descriptive statistics will be performed. The primary study outcome (Prevalence and of depression among physicians in major hospitals in Makkah 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 Makkah

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 Makkah 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 specialists 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 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	X²	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 participants 127 (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

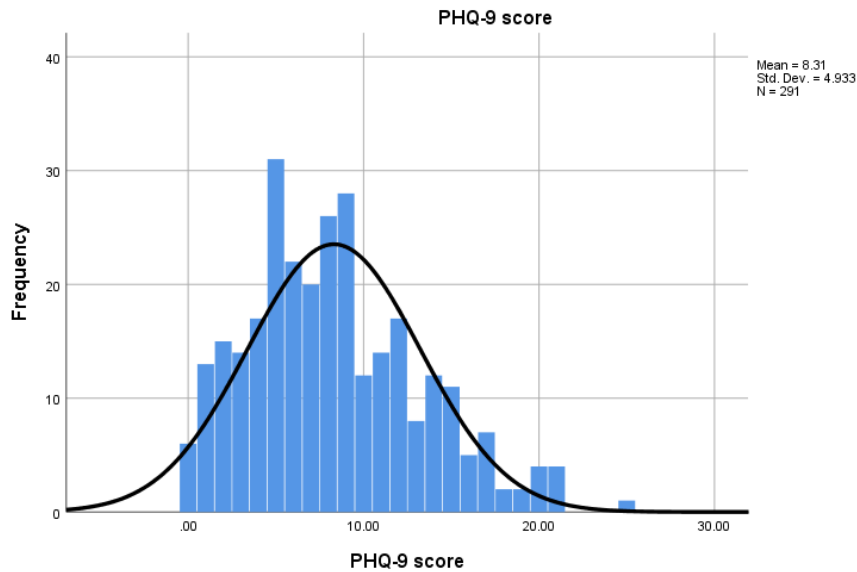


Figure 2 Distribution of the PHQ-9 scale prevalence of depression among physicians in major hospitals. (negative, minimal, mild, moderate and severe depression score).

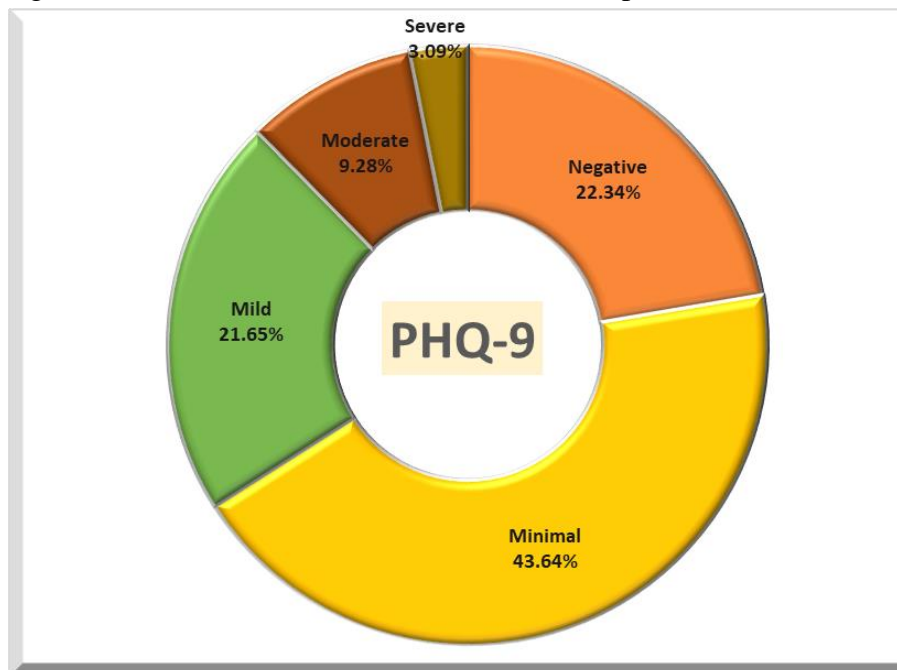


Table 4 Distribution the relation of socio-demographic data to prevalence of depression among physicians in major hospitals . (Do you have a history of , Take any kind of psychiatric medication ,average number of patients have you seen daily, How many working shift do you have per month, How many hospital 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
No	272	8.2757	± 4.85902	T	-0.393	0.694

Diabetes mellitus	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 $P\text{-value}=0.002$, increase (Ophthalmology), the mean \pm 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 $P\text{-value}=0.009$ increase (in null), the mean \pm 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 $P\text{-value}=0.000$, increase (in answer no), the mean \pm SD respectively were (11.7910 ± 5.48976) .

Table 5 : 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 $P\text{-value}=0.828$, 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 $P\text{-value}=0.396$, 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 $P\text{-value}=0.999$, 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 $P\text{-value}=0.126$, 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 $P\text{-value}=0.811$, and (Odd = 1.131,

95%CI = 0.413-3.092). while($B=0.123$, $S.E.= 0.513$ and $Wald=0.057$). Regarding depression no significant negative affect of depression and depression were $P\text{-value}=0.573$, 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 $P\text{-value}=0.768$, 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 $P\text{-value}=0.104$, 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 $P\text{-value}=0.521$, and($Odd = 1.145$, $95\%CI = 0.757-1.733$). while($B=0.136$, $S.E.= 0.211$ and $Wald=0.412$). Regarding hospital on-call/month no significant Positive affect of hospital on-call/month and depression were $P\text{-value}=0.944$, 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 $P\text{-value}=0.016$, and($Odd = 0.322$, $95\%CI = 0.128-0.811$). while($B=-1.134$, $S.E.= 0.472$ and $Wald=5.775$

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 3 hospitals in Makkah city, Makkah city is located in Saudi Arabia. One of the most important characteristics of Makkah 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 specialists 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.[30]

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[31]. 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[32].

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%[33], whereas Bodhare TN et al reported it as 45%. [34] 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.[35] (See table 3)

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 findings have been observed in Korea, and India[31](see table 4)

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). Similarly, another study showed the same result [34] (see table 5)

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 risk 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.

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