

DEPRESSION AMONG EMERGENCY ROOM PHYSICIANS AND ITS ASSOCIATED FACTORS IN MAKKAH AL-MOKARRAMAH HOSPITALS

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DOI: 10.5455/ijmsph.2014.190920142

Received Date: 14.09.2014

Accepted Date: 19.09.2014

ABSTRACT

Background: Several studies indicated that medical community might exhibit a relatively high level of certain mental health problems, particularly depression. Knowledge about the predictors of such problems among physicians constitutes a basis for adequate prevention and management.

Aims & Objectives: Determination of prevalence of depression among physicians working in hospital ER in Makkah Al-Mokarramah city and evaluation of factors associated with depression among them.

Materials and Methods: This is a cross-sectional study included a sample of 100 physicians, (68%) males and (32%) females. The tool of the study was self-administered questionnaire, which consist of two main parts, each part had separate instructions. First part was consisted of personal data, Second part included 21 questions of Beck Depression Inventory Scale.

Results: Main result showed that the prevalence of depression among ER Physicians was 47%. The mild form represented 51 %, moderate form was 40.4 % and severe form was 8.5%. Important factors significantly affecting the prevalence of depression among ER physicians were smoking, absence of recreational activity and previous history of depression. Factors insignificantly associated with depression were age, gender, nationality, marital status, number of children, income, job, medical qualification, duration of work in ER, fixed work to ER, number of patient seen per shift, number of physicians per shift, relative loss in past 6 month, not having exercise activity and presence of medical illnesses.

Conclusion: Depression is a common problem among ER physicians. The main recommendations to high authority are to give more care to recreational activity for physicians, healthy lifestyle particularly smoking cessation through a planned programme, frequent assessment of stressor facing ER physicians which may predispose to depression. Finally; screening, diagnosis and treatment of depression among ER physicians seems of help to them. Furthermore, enough support to ER physicians suffering from depression through arrangement of follow up visit to prevent relapse.

Key Words: : Depression; Emergency Room Physicians; Beck's Depression Inventory (BDI) Scale; Prevalence; Saudi Arabia

Introduction

Depression is a common psychiatric disorder, affecting about 121 million people worldwide. Usually presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, poor concentration, and in more severe cases may end with suicide.^[1]

Psychiatric disorders affect physical health, job performance and health care utilization. Depression, Stress and anxiety disorders contribute to absenteeism and lack of confidence.^[2]

Disability caused by depression and anxiety is just as great as that caused by other common medical conditions, such as hypertension, diabetes, and arthritis. Co-morbidity of depression with anxiety or medical illness further increases the disability experienced by sufferers. Recognition and treatment will relieve the burden imposed by untreated depression on the individual, society, and health services.^[3]

Several studies indicated that medical community might exhibit a relatively high level of certain mental health problems, particularly depression; knowledge about the predictors of such problems among physicians constitutes a basis for adequate prevention and management.^[4]

Emergency medicine is a specialty known to be associated with occupational stress, anxiety, depression, and burnout. Despite knowledge about stressors and health hazards, health professionals are often not aware of the factors that contribute to their own general and mental health, therefore, the stressors and the subsequent development of anxiety and depression must be identified before any intervention methods can be utilized.^[2]

The health effects of rotating shift work may put emergency physicians at increased risk of coronary artery disease, impaired reproductive health, Emotional stress and burnout, furthermore, emergency physicians treat patient at risk for violent behaviour, such as those

involved in violent crimes, people with psychotic disorders, substance abuse, delirium, as well as those experiencing stressful situations because of their own or their family members medical emergencies.^[5]

A study carried out in Turkey (2004) including 192 emergency physicians to evaluate depression and anxiety among physicians working in emergency units, the prevalence of depression was 15.1% and anxiety was 14.6%. The study concluded, that the considerable amount of depression and anxiety found among physicians in this study should trigger further work.^[6]

Depression screening measures do not diagnose depression on clinical basis, but they provide an indication of the severity of symptoms and assess the severity within a given period of time (for examples, the past seven to 14 days). Although each measure has a unique scoring system, higher scores consistently reflect more severe symptoms. All measures have a statistically predetermined cut-off score at which depression symptoms are considered significant. Some measures group scores into different levels of severity of symptoms. The Beck's Depression Inventory (BDI) scale, which is used in the current study, is one of the popular tools, which are used to assess the severity of depression through designed 21 sets of questions.^[7]

This study aimed to study the prevalence of depression and its associated factors among ER physicians in Makkah Al-Mokarramah hospitals.

Materials and Methods

This is a cross sectional (descriptive) and analytical study included all physicians working in governmental ER hospitals in Makkah, Saudi Arabia. Physicians working in ER for less than two week, as this duration is essential for depression diagnosis.^[8] Makkah Al-Mokarramah is the holy place for whole Muslims, Located in western region in Saudi Arabia. In Makkah Al-Mokarramah there are 5 Hospitals with emergency department. These hospitals are maternity and child health (MCH) hospital, Al-Noor specialist hospital, Hera general hospital, King Abdul-Aziz hospital (KAH) and King Faisal hospital (KFH). The ER of Al-Noor and Hera hospital divided into general, pediatric and obstetric ER. King Abdul-Aziz and King Faisal hospital have general ER only. MCH hospital has pediatric and obstetric ER. Total number of ER physicians working in these hospitals was 118 physicians distributed as following: Al-Noor hospital 40 physicians, Hera hospital 30 physicians, King Faisal

hospital 20 physicians, King Abdul-Aziz hospital 16 physicians and MCH hospital 12 physicians. All ER physicians (118) were invited to participate in this study. A self-administered questionnaire containing two sections was utilized for data collection. The first section included physician's personal information while the second section included Beck Depression Inventory (BDI) scale to measure depression: This scale is a common popular tool to diagnose depression through designed 21 set of questions in which each question includes 4 item ranging from 0 to 3, the BDI scale do not diagnose depression on clinical basis, but it assess depression severity in a given period of time (the past 7 to 14 days). The score of depression are 0-9 (no or minimal), 10-16 (mild), 17-29 (moderate), 30-63 (sever), the cut point to consider depression is score 10 or above.^[8] The Beck's Depression Inventory (BDI) questionnaire was found to have 100% sensitivity and 89% specificity when evaluated against diagnostic criteria.^[9]

A list of all emergency physicians and their duty schedules from the 5 hospitals, were obtained from the hospital administration. In every ER, there are 3 shift working per day and one shift off; the morning shift start from 8 morning till 4 afternoon, the afternoon shift start from 4 afternoon till 12 midnight and the night shift from 12 mid night till 8 morning. Every shift rotates every 2 days. Al-Noor hospital was the Start at month of July, the researcher went to the ER at the morning shift duty, the questionnaire were distributed to all ER physicians in morning shift and they asked to fill the questionnaire and return it back to the researcher next day. Next day the researcher came at the end of the shift (3 pm) to collect the questionnaire from the previous shift and waits for the new shift and give them the questionnaire to fill it and return it back by next day. Third day the researcher came at the end of the evening shift to collect the questionnaire from the evening shift and waits for the new night shift and gave them the questionnaire to fill it and return it back by next day. Fourth day, researcher came at (7 am) to collect the questionnaire from the night shift and waits for the shift who was off duty. Questionnaires were distributed to this shift and responses were collected the day after. Same methodology carried out in the remaining 4 hospitals.

A Pilot study carried out at ER of IBN-SINA hospital to test methodology and validity of the questionnaire, seven physicians were included, questionnaires distributed to all physicians according to the duty table. Responses

were collected from participants with feedback and comment, if present, about the questionnaires. Researcher found a miss understanding in only two questions of personal data, it were changed and modified to a more clear statement.

Permission from joint program and higher authorities were obtained as well as confidentiality was assured.

Data were entered to personal computer, and SPSS v.10, was used for analysis. A P value <0.05 was adopted for significance.

Results

The study included 100 ER physicians distributed as following, 39 ER physicians from AL-Noor hospital, 21 from Hera hospital, 11 from MCH hospital, 18 from KFH and 11 from KAH in Makkah AL-Mokarramah. Their mean age was 36.6 year. Males were 68%, while females were 32%. Physicians from general ER were 68%, from paediatric ER were 22% and from gynaecology and obstetrics ER were 10%. 90% physicians were non-Saudi and 10% were Saudi.

The number of received filled questionnaires was 100 out of 118 making a response rate of 84%.

Forty seven out of 100 physicians (47%) in this study were found to have depression by Beck Depression Inventory scale.

Depression among physicians was further categorized into mild, moderate or severe depression. Therefore; mild depression was noticed among 24 physicians (51%), moderate form among 19 physicians (40.4%) and sever form in 4 physicians (8.5%).

Factors associated with Depression

The mean age for physicians with depression was 36.6 years, and among non-depressed physicians was 35.9 years, however, this difference was statistically insignificant.

There were 32 out of 68 male physicians (47%) with depression, while there were 15 out of 32 female physicians (46.8%) affected with depression (Figure 1).

Among 10 Saudi physicians 6 (60%) had depression compare to 41 non-Saudi physicians (45.6%), as shown in figure 4. However; this difference was statistically insignificant.

Table-1: The monthly income of physicians and depression

Income	Presence of depression		Total
	Yes	No	
<5,000	5 (45.5%)	6 (54.5%)	11 (100%)
5,000-10,000	32 (47.1%)	36 (52.9%)	68 (100%)
>10,000	10 (50%)	10 (50%)	20 (100%)

p > 0.05

Table-2: Work fixed to ER in relation to depression

Fix work	Presence of depression		Total
	Yes	No	
Yes	35(50.7%)	34(49.3%)	69(100%)
No	12(38.7%)	19(61.3%)	31(100%)

p > 0.05

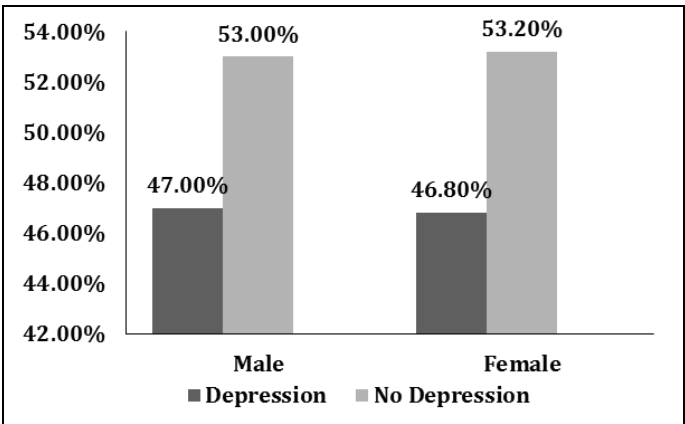


Figure-1: Depression among ER physicians according to gender

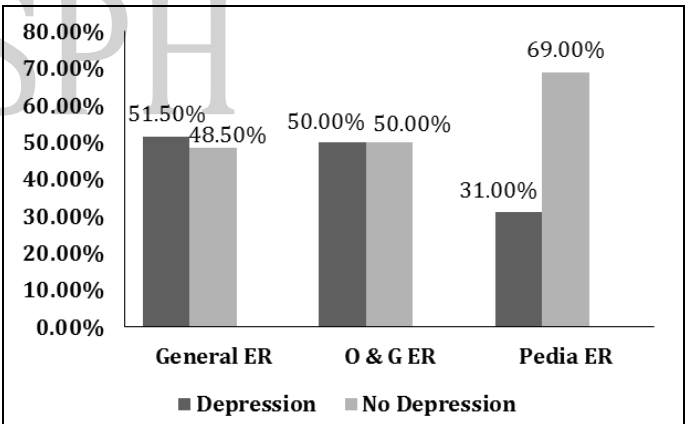


Figure-2: Depression among ER physicians according to specialty

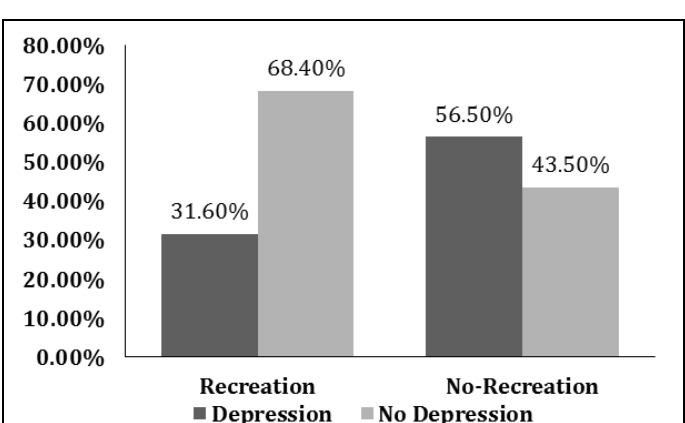


Figure-3: Depression among ER physicians according to recreation activity

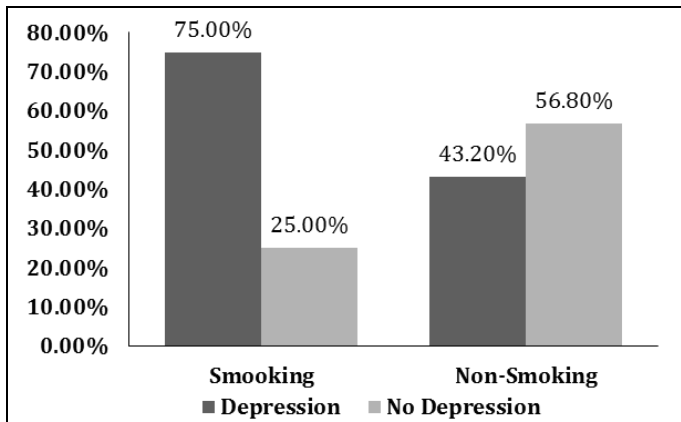


Figure-4: Depression among ER physicians according to smoking status

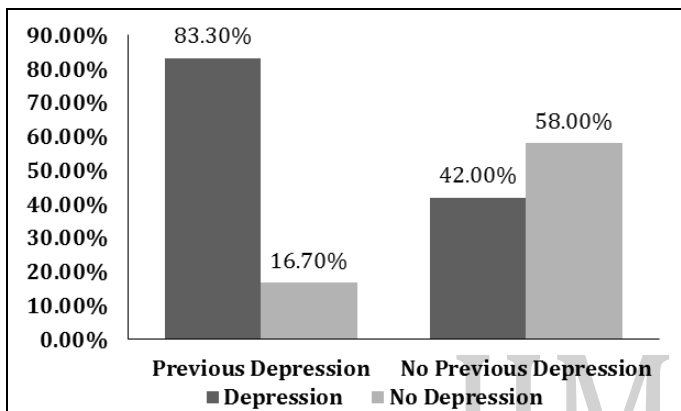


Figure-5: Depression among ER physicians according to previous history of depression

Highest depression score was reported at KFH (66%). The lowest score was found at Hera hospital (28%), the remaining hospitals of Alnoor, KAH and MCH showed a depression of 47%, 45% and 45% respectively. Highest depression score was reported among general ER physicians (51.5%), while the lowest score was reported in paediatric ER (31%). (Figure 2)

Out of 16 single physicians 8 (50%) were affected with depression. Out of 80 married physicians 37 (46%) had depression. Furthermore; out of 2 divorced physicians both of them (100%) were affected, and out of 2 widowed physician, both were not affected. However, this difference was statistically insignificant.

Physicians of higher income had depression more than those of lower income as shown in Table 1. This difference was statistically insignificant. Depression was more prevalent among physicians with M.B.B.S constituting 52.4%. Physicians having master degree were five and all of them had no depression. Moreover, there were 13 fellowship holders 4 of them (30.8%) had depression. However; this difference was statistically

insignificant. Consultants were only 2; both of them (100%) were depressed. Among resident and specialist, depression were (48 %) and (14 %) respectively.

Table 2 shows that 50.7% of physicians who were fixed to ER had depression compared to 38.7% of physicians who were not fix. This difference was statistically insignificant. It was found that 43.6% of physicians who were performing physical exercise had depression compared to 49.2% of physicians who were not performing it. This difference was statistically insignificant.

Figure 3 shows that 31.6% of physicians who were performing recreational activities had depression compared to 56.5% of physicians who were not performing it. This difference was statistically significant (p value <0.013). The most common recreational activities being performed were reading, watching television and exploring internet.

The results showed that mean number of patients seen per shift for physicians with depression was 74 and among non-depressed physicians was 71 patients, this difference was statistically insignificant. Mean number of children for physicians with depression was 1.9, and among non-depressed physicians was 1.6, this difference was statistically insignificant. Mean duration of work in ER was 4.3 year among depressed, and was 3.2 years among non-depressed, this difference was statistically insignificant. Mean number of working physicians per shift, for physicians with depression, was 4.6 and among non-depressed physicians was 4.1, the difference was statistically insignificant.

Figure 4 shows that 75% of physicians who were smoker had depression compared to 25% of physicians who were not smoker. These difference was statistically significant p<0.05.

Figure 5 shows that 83% of physicians who had recent or previous history of depression found to be depressed compared to 42% of physicians who were not. This difference was statistically highly significant p value<0.008.

It was observed that 55% of physicians who had medical history of illnesses, such as diabetes, hypertension and asthma, had depression compared to 45% of physicians who were not. These differences were statistically insignificant.

It is reported that 55.6% of physicians who had history of relative loss during last 6 months found to have depression compared to 45.1% of physicians who were not. This difference was statistically insignificant.

Discussion

The response rate obtained in the current study was 84%. This figure was expected and might be due to annual leave of some physicians at the time of research. The prevalence of depression among ER physicians reported in the current study (47%) was high as expected. This might be explained by many factors; such as increased workload, stress, shift duties and the critical cases seen frequently in ER. This prevalence was similar to the study held by Al-Harbi 2004 using the same scale.^[10] However, her study was on PHC physicians in Jeddah. The prevalence of this study was higher than the study held recently in Makkah PHC by Raffa using same scale.^[11]

Other studies held outside KSA showed lower prevalence of depressions using different scales.^[2,6,12-14] According to the results of the current study, the grades of depression showed more mild forms and less severe forms as expected. The mild form is usually more commonly presented. This was in agreement with the studies held in Jeddah 2004, and in Makkah 2008 and with studies held outside KSA.^[2,6,10-15]

Physicians' age was not a significant predictor for depression in the present study. This was unexpected and might be explained by both groups of depression and no depression being in the middle age category. Other studies conducted among physicians showed higher depression rate among younger age group.^[6,10] Unexpectedly there was no gender difference as well. Other studies showed depression to be more common in females.^[6,10,11]

This high depression reported among Saudis in the present study was expected, although not significant. This was probably due to the younger age, newly graduated and possible impact of shift duties on their social life more than those who are non-Saudi. Similar findings were reported by other studies.^[10,11]

The variation in the prevalence of depression between hospitals observed in this study was expected and can be explained by the variation in communities surrounding these hospitals, infectious disease department is available only at KFH hospital, and furthermore, KFH

received trauma and accident with lack of some speciality such as neurosurgery and vascular surgery. There were no studies addressing this variable up to the researcher's knowledge.

The highest depression rate was reported among general ER physicians. This is expected and might be due to the presence of rotations system between internal wards and ER in paediatric department and lack of rotation in general ER. Up to the researcher's knowledge there were no studies addressing this variable.

In the present study all divorced physicians were depressed. This result was expected, and in agreement with other studies addressing same variable.^[6,10,11]

Although not significant, physicians of higher income in the present study had depression more than those of lower income. This result was unexpected, and in disagreement with other studies addressing this variable.^[6,10,11] It might be explained by the burden of expending the income and priority conflicts.

Depression was expectedly high among M.B.B.S degree holders in the current study and this also in agreement with other study.^[10,11]

Depression was unexpectedly more prevalent among consultant physicians which is in agreement with Heyworth et al study.^[15] Other studies reported lower levels of depression among consultants.^[10,11] This might be due to the big responsibilities carried out by ER consultants.

Depression was more reported among physicians who were fixed to ER (although not significant). This is expected and may be explained by better effect in rotation between ER and internal departments that gives a better outcome than being fixed to ER alone. Up to the researcher's knowledge there were no studies addressing this variable.

Physically inactive physicians were more depressed, although not significant. This result was expectedly higher among physicians who were not performing exercises and this is in agreement with other study.^[12-13]

Depression was significantly more prevalent among physicians who were not performing recreational activities; this is expected and was emphasized by Johnson (1991) who stated that there was a reciprocal relation between performing both physical exercise and recreational activities and the sense of well-being.^[16]

This is also in agreement with Raffa and AL-Harbi studies.^[10,11]

Depression was more reported among physicians who have seen more patients per shift (although not significant). This result is usual as the more number of patient seen by physician the more stress and depression. This is in agreement with Raffa study.^[11] However, other study showed inverse relation.^[10] Also depression was more reported among physicians with more number of children (although not significant). This result was expected as the more number of children the more needs for care, money and education. This is in agreement with Erdur study.^[6]

In the present study, depression was more reported among less experienced physicians. This result was unexpected as more experience leads to less stress and therefore less depression, the result might be explained by the possibility of work dis-satisfaction among those physicians. This is in agreement with Erdur and Raffa study.^[6,11] However, other study showed inverse relation.^[10]

Smoker physicians were more significantly depressed than none-smokers. This result was expected and showed much higher prevalence than Erdur et al study which showed 10.8% of physicians who were smoker to be depressed.^[6]

Depression was more significantly reported among physicians with previous history of depression. This result was expected and can be explained by the possibility of recurrence of depression among those who were previously affected. This is in agreement of Asal and Abdel-Fattah study.^[17] Relative loss was accompanied by higher rate of depression. This result is usual, as relative death considered a major life stressor. This is in agreement of Asal and Abdel-Fatta study.^[17]

Conclusion

Depression is a common problem among ER physicians. The main recommendations to high authority are to give more care to recreational activity for physicians, healthy lifestyle particularly smoking cessation through a planned programme, frequent assessment of stressor

facing ER physicians which may predispose to depression. Finally; screening, diagnosis and treatment of depression among ER physicians seems of help to them. Furthermore, enough support to ER physicians suffering from depression through arrangement of follow up visit to prevent relapse.

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Cite this article as: Al-Zahrani AH, Kalo BB. Depression among emergency room physicians and its associated factors in Makkah Al-Mokarramah Hospitals. *Int J Med Sci Public Health* 2014;3:1501-1506.

Source of Support: Nil

Conflict of interest: None declared