

Original Article

THE PREVALENCE OF DEPRESSIVE SYMPTOMS AND ITS SOCIOECONOMIC DETERMINANTS AMONG UNIVERSITY STUDENTS IN AL AIN, UAE

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ABSTRACT

Objectives: depression is considered one of the greatest causes of disability in the world. The effect of depression on individuals is multifactorial leading to a huge impact on the quality of life of individuals and communities. The age group 18-29 is the most affected group, which makes university students at high risk of suffering from depression. The objective of this research is to determine the prevalence of depression among a sample of university students in Al Ain, UAE. Also, to study the effect of different socioeconomic factors on the prevalence of depression within the studied sample

Methods: the self-administered patient's health questionnaire (PHQ-9) was used to screen the presence and the severity of depressive symptoms. A stratified cross-sectional sample of 700 university students was used. Pearson's chi square test was used to study the significance of different demographic data on the prevalence of depression

Results: the prevalence of depression was found to be 22.2% among the study sample. Age was associated with a significant difference in the prevalence of depression with the highest rate in the age group 17-25. Students who claimed facing financial difficulties had a significant higher prevalence of depression. Finally, students' perceptions to their weight were associated with a significant influence on the prevalence of depression. Those who claimed being overweight had a significant higher prevalence of depression

Conclusion: these results support the idea of more mental health screening services should be provided to university students to identify those at high risk of developing depression.

Keywords: Depression, PHQ-9, University students.

INTRODUCTION

Depression is the most common prevalent condition in the area of mental health. It is characterized by a complex mixture of emotional, physical, cognitive and psychomotor symptoms. According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition, depression can be diagnosed if at least five out of nine symptoms are present for at least 2 weeks; one of these symptoms has to be either depressed mood or lost of interest or pleasure [1]. In USA, the 12-month prevalence and lifetime prevalence of depression are estimated to be 6.7% and 16.5% respectively [2, 3].

In another study, the prevalence of depression in different countries was categorized according to the income of the country. In 10 high-income countries the 12-month and lifetime prevalence of depression were estimated to be 5.5% and 14.6% respectively. In the eight low- to middle-income countries the 12-month and lifetime prevalence of depression were 5.9% and 11.1% respectively [4]. Depression usually strikes more frequently at younger ages. For 12-month prevalence, younger adults between the ages of (18-29) years-old are 200% more likely to suffer from depression compared to those over 60-years of age [5]. Depression has a huge financial and social impact on individuals and society. World Health Organization (WHO) has recognized depression as the fourth leading cause of disease burden in the world [6]. The greatest contribution to the economic burden of depression arises from the indirect expenses related to workplace costs; such as absenteeism and decreased productivity [7]. Breakdown of relationships is an important aspect of the social burden of depression. In a cross-national epidemiological study of depression where data from 18 countries were analyzed, the strongest demographic correlates were being separated from a partner, divorced or widowed [4]. The age of the university undergraduate students (18-30), makes them more susceptible to depression than others. Indeed, a systematic review of 24 studies conducted to measure the prevalence of depression in university undergraduate students showed a mean prevalence of

30.6% which is higher than the rest of population [8]. Zisook et al. found that the earlier the age of onset of depression the greater the burden of the disease [9]. Therefore, studying the prevalence of depression in university students is of great importance, especially in Arabic countries, where depression is rarely discussed [10]. The aim of this research is to study the prevalence of depressive symptoms in a sample of university students in Al Ain area and to explore its relationship with different demographic data.

MATERIALS AND METHODS

Al Ain University of Science and Technology is located in Al Ain city, Abu Dhabi, UAE. The university accommodates about 2500 students in five different colleges. The research proposal has been approved by the university research ethics committee (PH167). A stratified random sample of undergraduate students from Al Ain University was surveyed from 15/01/2013 till 18/02/2013. The sample represented the five colleges of the university and was stratified according to the contribution of each college to the total number of students in the university, gender distribution at the university and the academic year level of students. 700 surveys were distributed to all colleges, 640 students participated and filled the survey, 36 surveys were excluded from analysis due to incomplete answers. A total of 604 surveys were included in the analysis. Table (1) summarizes the demographic data of the study sample. The self-administered survey consisted of the nine-question patient health questionnaire (PHQ-9) which is designed according to the guidelines of the Diagnostic and Statistical Manual of Mental Disorders. The nine questions are related to different depressive symptoms, where the student can determine the frequency of each symptom in the last two weeks. The English and the Arabic versions of the PHQ-9 were validated and considered suitable for screening purposes [11, 12, 13].

Depression was diagnosed if at least five depressive symptoms were present in the shaded area of the survey and one of these symptoms is either depressed mood or loss of interest or pleasure.

The severity of depression was assessed according to the total depressive score as follows: mild depression (11-15), moderate depression (16-19), severe depression (> 20).

Chi square test was used to evaluate the significance of different demographic data on the presence of depressive symptoms. *P*-value of 0.05 or less was considered statistically significant.

Table 1: Demographic data of the surveyed sample

Total Number of Students: 604	
Gender	
Male	205 (33.9%)
Female	399 (66.1%)
Age	
17-25	428 (70.9%)
26-31	140 (23.2%)
> 31	36 (5.9%)
Colleges	
Pharmacy	107 (17.7%)
Engineering	51 (8.4%)
Business admin.	79 (13.1%)
Law	208 (34.4%)
Education	159 (26.3%)
Study load (cr. hrs)	
<9	59 (9.8%)
9-15	365 (60.4%)
>15	180 (29.8%)
Financial difficulties	
Yes	125 (20.7%)
No	479 (79.3%)
Weight	
<ideal weight	91 (15.1%)
Ideal weight	319 (52.8%)
>ideal weight	194 (32.1%)
Medications	
Yes	69 (11.4%)
No	535 (88.6%)
Job	
Yes	189 (31.3%)
No	415 (68.7%)
Social status	
Single	435 (72.0%)
Married	157 (26.0%)
Divorced	12 (2.0%)
Academic year	
1 st year	179 (29.6%)
2 nd year	120 (19.9%)
3 rd year	172 (28.5%)
4 th year	111 (18.4%)
5 th year	22 (3.6%)
GPA	
New students	74 (12.2%)
<2.0	61 (10.1%)
2-2.49	142 (23.5%)
2.5-3.0	166 (27.5%)
>3.0	161 (26.7%)
Smoking	
Yes	78 (12.9%)
No	526 (87.1%)
Health problems	
None	515 (85.3%)
Diabetes	7 (1.2%)
Asthma	22 (3.6%)
Hypertension (HT)	12 (2.0%)
Diabetes + HT	2 (0.3%)
Others	46 (7.6%)

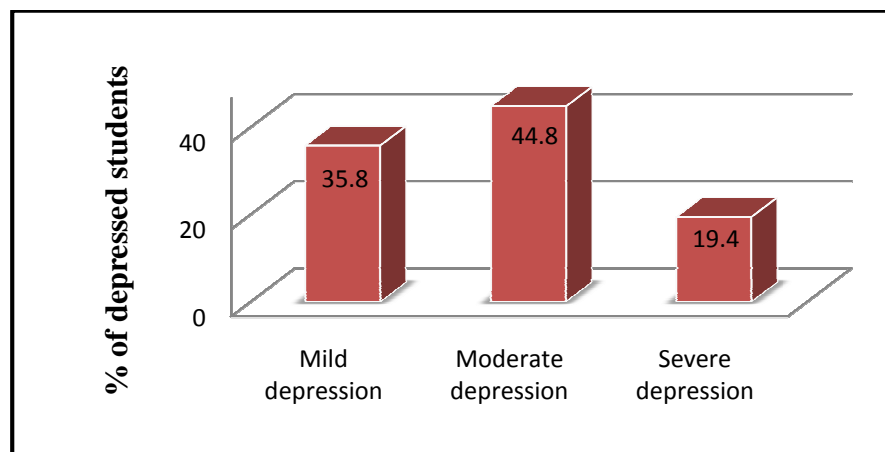


Fig. 1: severity of depression (N= 134)

RESULTS

Based on the analysis of the survey results, the total prevalence of depression was estimated to be 22.2%. Females reported a higher prevalence of depression than males (23.5% and 19.5% respectively), though it was not statistically significant. Most of the self-reported depressed cases were moderate in severity (44.8%) and only 19.4% were considered severe (Fig. 1). Females tended to report more severe depression than males (22.3% and 12.5% respectively). Age had shown a significant difference on the prevalence of depression among the study sample ($P = 0.01$). Financial difficulties were found to exert a significant effect on the prevalence of depression with 33.6% of the total depressed students claiming financial difficulties. In general, 20.7% of the total sample claimed facing financial difficulties, out of those, 36.0% were

identified as depressed (Fig. 2). Students' perception to their weight provided a significant influence on the prevalence of depression. 47.8% of the total depressed students claimed weighing more than the ideal body weight. In general, 32.1% of the total students in the sample claimed weighing more than the ideal body weight, out of those, 33.0% were found depressed. No statistically significant differences were found with the following variables: social status, job status, type of college, academic year, academic load, academic grade (GPA) and cigarette smoking status. The most severe symptom associated with depression was found to be "sleep disturbances", followed by "feeling tired with little energy" and "feeling depressed" (average score \pm SEM: 2.13 ± 0.08 , 2.10 ± 0.08 , and 2.08 ± 0.07 respectively) (Fig. 3). It was interesting to note that 44.1% of the total sample claimed having sleep trouble in more than half the days of the last two weeks.

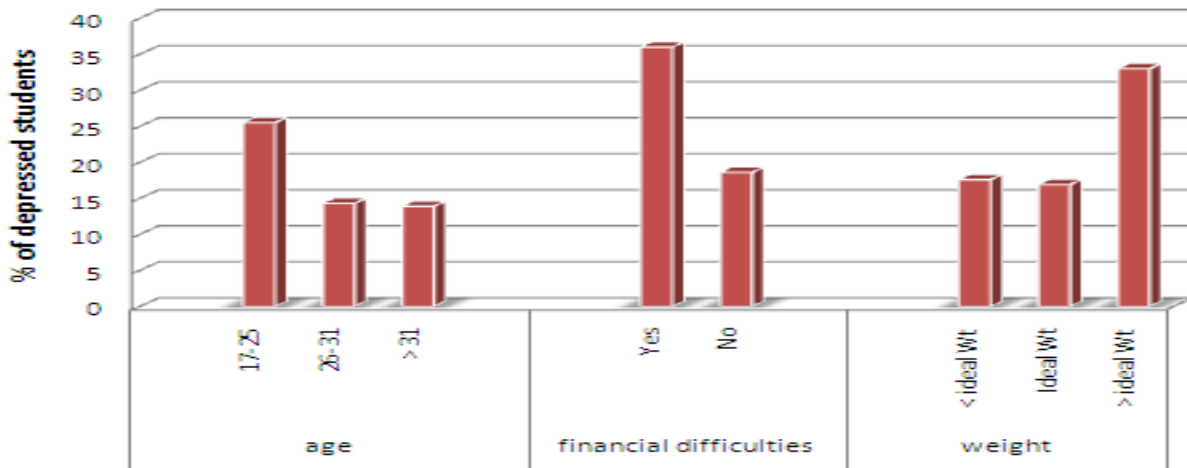


Fig. 2: variables with significant influence on the prevalence of depression

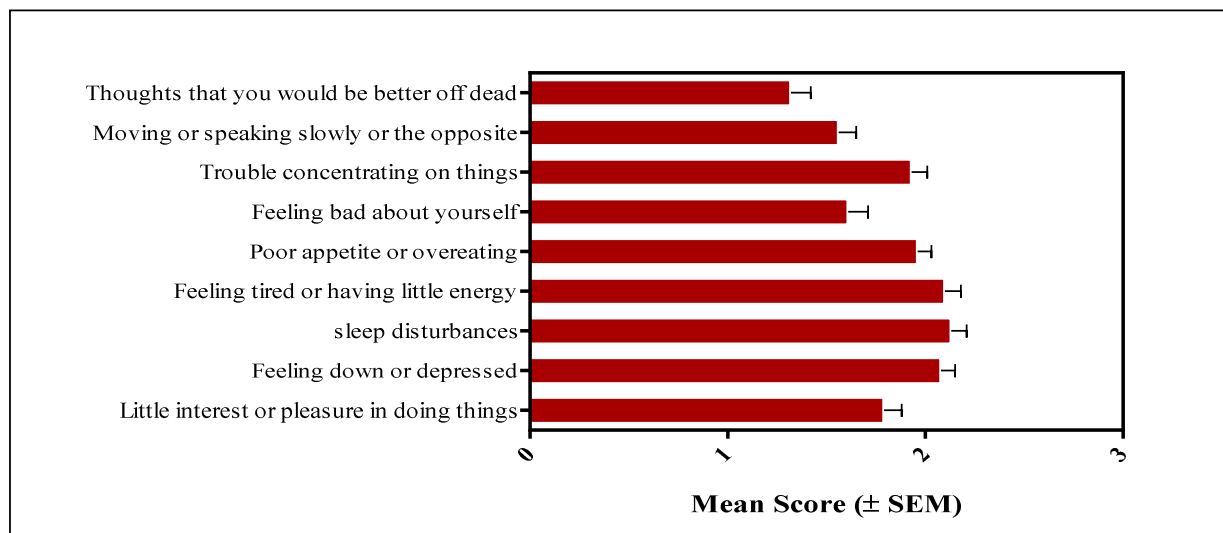


Fig. 3: mean score ± standard error of the mean of the PHQ-9 questions for depressed students (N= 134)

DISCUSSION

The prevalence of depression in Al Ain university students is higher than previously reported prevalence in general population and this finding has been confirmed in other studies in different universities around the world (22.2% Vs. (11-16)%) [4]. Ibrahim AK, et al. conducted a systematic review of 24 studies of depression among university students and found a weighted mean prevalence of 30.6% (range 10 - 84.5) [8]. Out of the 24 studies, only 3 studies had used the PHQ-9 questionnaire and they reported prevalence rate of 13.8, 84.5 and 44.0%. The study that reported the 84.5% prevalence had a very low response rate of 8.1% (N= 729). It is noteworthy to mention that all the three studies that used the PHQ-9 questionnaire used only normal cut-off point to diagnose depression, while in this study we added the presence of either depressed mood or loss of interest or pleasure to the diagnostic criteria which makes it similar to the DSM-IV criteria. In another study that carried out in Oman, the prevalence of depression was estimated to be 27.7%. However, the sample was not representative to the university student population as only students who attended university clinic were screened [14].

No significant difference was found in the prevalence of depression between males and females. The results of other similar studies in

university students were controversial [8]. In general, females are more susceptible to depression than males; this is correct to all age groups except the age group (18-24) year-old, where both genders are equally susceptible [15]. Also, in this study and the study conducted in Oman, we have noticed that females tended to report more severe depression than males (in this study: 22.3% and 12.5% respectively). The influence of age on the prevalence of depression among the study sample was statistically significant ($P = 0.01$). The highest prevalence was reported by younger students (age group 17-25). Similar results were found in three studies conducted on university students in Turkey, USA and South Korea [16], [17], [18]. Despite the higher prevalence of depression in younger students, no significant difference was found between the prevalence of depression and academic year levels. A significant difference was found between the prevalence of depression and having financial difficulties. Students who claimed facing financial difficulties showed a higher prevalence of depression ($P < 0.001$). This result agrees with the abovementioned systematic review results which showed that a higher prevalence of depression was associated with students with lower income [8]. Also, in another study among some Australian communities, financial hardship was strongly associated with depression measured by the Goldberg depression scale [19]. Economou et al, studied the effect of the recent world financial crisis

on the one month prevalence rate of depression between 2008 and 2011 in Greece, the result showed a significant increase in the rate of depression from 3.3% to 8.2% [20].

Students who claimed being overweight had a higher prevalence of depression compared to the rest of the students. This result was not surprising if we know that obesity can cause 55% increase in the risk of developing depression [21]. In another study among university students conducted in UAE, 73% of the students were dissatisfied with their weight and 55% of the total sample wanted to be thinner. When the students were assessed in relation to depression using Beck depression inventory questionnaire, the authors found a statistically significant correlation between body dissatisfaction and depression in females but not in males [22]. In general there is a high degree of co-morbidity between depression and obesity related conditions. Furthermore, the psychological stress caused by obesity due to poor body image and low self-esteem contributes to the higher prevalence of depression in obese individuals [23].

Another important finding in this research was the high percentage of students who claimed suffering from sleep disturbances (total 44%, 30% of them were depressed). The presence of sleep disturbances in young ages may increase the risk of developing some chronic diseases in addition to depression; in fact, insomnia can double the risk of developing depression [23]. However, it is important to understand the perception of depression in the Arabic world, where concealing emotions and feelings is highly valued [10]. Arabic individuals feel no shame to disclose his/her sleep disturbances to their doctor, but find it very difficult to discuss their feelings and emotions. Furthermore, the high level of stigmatization toward mental illness and the assumed connection between mental illness and weakness in faith added further barriers for accessing health services [24]. Hence no wonder to find the most effective coping strategy to deal with depression; as quoted by a community sample in Dubai; was talking to religious professionals [25].

CONCLUSION

This research has confirmed the results of previous researches that university students are at high risk of developing depression. There were statistically significant association between the prevalence of depression and students' age, weight and financial difficulties. We recommend mental health authorities to develop a screening policy to target students at high risk of developing depression.

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