**Abstract**

Objectives: Our aim was to determine the presence of depressive symptoms and compare the level of depression between 5th year and 1st-year medical students in a city. Depression is a common serious medical disease characterized by persistent sadness, affect more than 300 million individuals worldwide.

Methods: A Cross-sectional study with convenient sampling, including two medical colleges. The study was carried out in October - November 2017. Using Beck's Depression Inventory questionnaire.

Results: The questionnaire was answered by 241 participants, male students scored higher than female students on the lower side of the scale in both years. Most of the first-year female students scored a higher level of depression in comparison to males (p=<0.001).

Conclusions: our study shows a new pattern of reported depressive symptoms among 1st and 5th year medical students. Also confirms depression is more common among female medical students. we recommend using randomizing sampling in a cohort study including all levels of medical students in further investigations.

Keywords**:** depression; medical students; cross-sectional; Beck's depression inventory questionnaire; Saudi Arabia.

**1. Introduction**

Depression is a common serious medical disease characterized by persistent sadness, affect more than 300 million individuals worldwide, causing social burden involving the ill individual and his family and community, also, economical burdens which are the direct, work-related, suicide-related costs.1,2,3 In United States, around 10% of physician office visits are with depression.4 Approximately 43% of individuals with severe depressive symptoms had reported hardships and serious obstacles in home and social events.5 According to the National Vital Statistical Reports in 2014, Suicide deaths per 100,000 people is 13,4.6

In United States, a prospective study was done to compare the risk of depression in medical students in their 1st year and 3rd year, the findings show a rise in the risk of depression in the 3rd year medical students compared to their risk in the 1st year.7 A systematic review on the European and English-speaking countries except for North America countries, the prevalence of depression ranges from 6% to 66%.8 A cross-sectional study was conducted in China in 2012, 51% of the sample (n=348) had moderate to severe depression on the PHQ9 scoring system.9 A systematic review was done in 2010 by Elzubeir MA et al. showing that anxiety and depression are common among Arab medical students, also they recommended the use of long, multi-method and future strategies to identify personal and curriculum, related factors affect the students' psychological well-being.10

To the best of our knowledge, there are six studies about the prevalence of depression among medical students in Saudi Arabia. In 2007, a cross-sectional study in Qassim University on pre-clinical years students showed a high prevalence of depression; female 1st-year students have a high risk of depression (89%) comparing to male 1st-year student (60%), no significant difference between male and females in second and third years. The overall increase in the risk of depression in 3rd-year students as compares to 2nd-year students.11 In 2008, a study comparing between male medical student's level of depression in Egypt and Saudi Arabia, shows a high level of depression in 43% of Saudi students and 24% of Egyptian students.12 In 2010, a study was conducted on undergraduate pre-clinical medical students and non-medical students in Imam Abdulrahman bin Faisal University in Dammam city, found that medical students suffering from depression were more than non-medical students, and recommended an improvement on the study environment.13 In 2013, another study was conducted in Jeddah City looking for predictors of anxiety and depression among female medical students at King Abdulaziz University, the results were 14% having depression.14 In 2015, medical and dental students were investigated by a cross-sectional study looking for their wellbeing status, they conclude that among 422 preclinical student's prevalence of depression was high (69%).15

Our primary objective was to determine a pattern of reporting depressive symptoms among 5th year and 1st-year medical students in a city, as secondary objectives, we aimed to compare the reporting of depressive symptoms between both genders.

**2. Materials and Methods**

The population of this study is 470 students, which are all the 1st year and 5th year students in two Universites. This is a cross-sectional study, carried out in October - November 2017. We used Beck's Depression Inventory questionnaire English language version, Previous studies were conducted with Beck's Depression Inventory and confirmed it is validity and reliability as a tool to screen for and score the depressive symptoms.16

The questionnaire includes two sections critical to our objectives, the 1st section consist of general demographic questions about age, gender, academic year. The 2nd section is the Beck's Depression Inventory questionnaire. The sampling method is Convenient sampling, our targeted population was first and 5th-year medical students. Statistical analysis was administered using the statistical package for social sciences (SPSS). Chi-square test was used as an analytical tool. The interpretation of the Beck's Depression Inventory data was by using the original scoring system, which is each of the 21 questions had 4 choices, these 4 choices equal 0, 1, 2 and 3 points, the lowest score is 0 points, the highest possible score is 63 points, the highest the number the more severe degree of depression the respondent has. The scoring system consists of 6 levels of results: (1-10) normal, (11-16) mild mood disturbance, (17-20) Borderline Clinical Depression, (21-30) Moderate depression, (31-40) severe depression, (>40) extreme depression.

The study received approval from the Office of Research Ethics at our university.

**3. Results**

Table 1. Demographic Data of the respondents

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1st year (n=112) | 5th year (n=129) | p-value |
| Age (mean, SD) | 19.5, ±0.890 | 23.67, ±2.18 | <0.001 |
| Gender (n, %)  Male | 59, 52.7% | 93, 72.1% | 0.002 |
| Female | 53, 47.3% | 36, 27.9% |

The questionnaire was answered by 241 participants who full fill the criteria for the study. Table 1 shows, the age variable shows a bimodal distribution, first-year students were 19 (±0.8) years old, and fifth-year students were 23 (±2.1) years old. Fifth-year students were 53.5% of the total sample; male students accounted for 63.1% of the total sample (P=0.002).

Table 2 demonstrates the difference between first-year and fifth-year students, males and females regarding depression scale, male students scored higher than female students on the lower side of the scale in both years. Most of the first-year female students scored a higher level of depression in comparison to males (p=<0.001). On the opposite fifth-year student shows no difference between males and females (p=0.4). There was no relation between age and depression among all participants (p=0.512).

Table 2. Depression levels among 1st and 5th year medical students.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1st year | | 5th year | | Depression scale |
| Male | Female | Male | female |
| 32 | 9 | 46 | 12 | Normal |
| 12 | 12 | 14 | 8 | mild mood disturbance |
| 8 | 8 | 7 | 5 | Borderline Clinical Depression |
| 5 | 11 | 17 | 5 | Moderate depression |
| 1 | 8 | 8 | 5 | severe depression |
| 1 | 5 | 1 | 1 | extreme depression |
| 59 | 53 | 93 | 36 | Total |
| <0.001 | | 0.441 | | p-value |

**4. Discussion**

The purpose of this academic paper is to study and evaluate a pattern of reporting depressive among medical school students in different level which we choose to apply our study on students of first year and the sixth year from both genders using Beck-Depression-Inventory-BDI scale.

*4.1 Difference between 1st year and 5th-year students*

Comparing between First year and fifth year students, first-year students scored higher level of depression in both genders. Another study to assess depressive symptoms has compared the prevalence of depression among medical students in their 1st year and 3rd year, and It shows a significantly increased risk of depression in 3rd-year medical students compared to 1st-year medical students.8 On the other hand, a Chinese study compared the prevalence of depression among second and 3rd-year medical students; no significant difference was found.9 Our results regarding the difference in reporting of depressive symptoms among first and 5th-year medical students could be due to the stress where they still not yet adjusted their life to tolerate the level of stress. Further research including all levels of medical students is needed to clarify the pattern of association between reporting depressive symptoms and the level of the student.

*4.2 Difference between Male and female*

Our results showed that male gender in comparison to female gender scored low level of depression in both years, and this could be explained by many factors such as biological and sociocultural factors which as well confirm that depression prevalence among female is more than male which consists with the data in WHO booklet where they stated that the depression prevalence in 2015 is 4.4% of the global population and more common among female than male. A study done in Saudi Arabia, Al-Qaseem University, investigating anxiety and depression in medical students, the results shows a high prevalence of depressive symptoms in females, which is consistent with other studies.11 Multiple studies have demonstrated an increase in depression risk among females compared to males.17,18,19,20

**5. Conclusion**

From the above discussion, we can conclude that our study shows a new pattern of reported depressive symptoms among 1st and 5th year medical students which show high reported symptoms among 1st year medical students compared with 5th year medical students, also this study confirms that depression is more common among female. Our limitations include cross-sectional study with convenient sampling, and we only included two levels of medical students, 5th year and 1st-year medical students. We recommend using randomizing sampling in a cohort study including all levels of medical students in further investigations.

**Acknowledgment:**

N\A

**Conflict of interests:**

We do not have any conflict to disclose.

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