



Systematic Review and Meta-analysis of Major Depression and Suicidal Ideation among University Students in the Middle East

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Abstract: According to the National Institute of Mental Health, in a survey done in 2009, 30% of university students admitted to feeling so depressed that it was difficult to function. University students in Middle Eastern countries are not an exception to Depression and other related symptoms, such as low mood and suicidal thoughts. Evidence reveals that university students show symptoms of Major Depression and Suicidal Ideation in most Middle Eastern Countries, such as Saudi Arabia, United Arab Emirates, Iran, Turkey, and Pakistan. Major Depression, also known as unipolar or major depressive disorder, is characterized by a feeling of continuous sadness and dejection. Along with low mood, persistent thoughts of suicide are also a common symptom of Major Depression. In this paper, we explore the prevalence of Major Depression and Suicidal Ideation among university students in the Middle Eastern countries. Regardless of the major, higher education level or gender, we are looking to analyze the existing research available to determine the extent of Major Depression, Depressive Symptoms and Suicidal thoughts in students enrolled in Middle Eastern universities. The studies that will be included are published in peer-reviewed literature. It is also important to mention that we would only be considering research papers published in the English Language. In addition to that, we are inclined to review literature published only within the last two decades, from 1998 to 2018.

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1. Introduction:

University life is considered an important period of a person's life; a period of new experiences and personal growth. However, with these new experiences, university life can also come with challenges, stress and even depression. The prevalence of depression and suicidal ideation has been increasing over the years for university students. Worldwide, studies on the topic have shown the prevalence of depression among university students to range from 10% to 60%. In the Middle East, numerous studies also reveal varying levels of depression among university students. A study in a medical college in Saudi Arabia found that depression for 44.4% of males and 66.6% of females (Inam, 2007). This high level of depression was consistent with other similar studies done in Pakistan and in the United Arab Emirates (Inam, 2007). Another study done in Egypt found symptoms of depression to be present in 37% of university students (Ibrahim, Kelly, Glazebrook, 2011).

According to the National Institute of Mental Health, a major risk factor for suicide is depression (National Institute of Mental Health, n.d.) In both the Eastern and Western societies, suicide is found to be one

of the leading causes of death (Chan, Straus, Brownridge, Tiwari & Leung, 2008). Moreover, it was found that significantly associated with each other were depression, suicidal ideation and self-harm (Chan et al., 2008) These estimates of depression and perhaps suicidal ideation among university students in the Middle East illustrate a picture of the mental health of our future leaders, parents and job holders.

We examined multiple studies on depression and suicidal ideation among university students in the Middle East and conducted a systematic review and meta-analysis of these studies.

2. Background:

In the present paper, we defined Major Depression as a serious mental illness that negatively affects behavior, thoughts, and actions. The American Psychiatric Association defines Depression as feelings of sadness and/or loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems (Parekh, 2017). It can also lead to social, occupational and interpersonal functioning (A.K Ibrahim et al., 2013).



Several studies have reported high rates of Depression among university students (Ibrahim & Abdelreheem, 2015).

To assess the symptoms of Major Depression, we have consulted the Beck Depression Inventory (BDI) and the Diagnostic and Statistical of Manual Disorders (DSM-5). All the reviewed papers used these scales to identify the symptoms of Depression. BDI measures mood, pessimism, sense of failure, self-dissatisfaction, suicidal ideas, crying, irritability, social withdrawal, body image, work difficulties, insomnia, fatigue, appetite, weight loss, bodily preoccupation and loss of libido (Ibrahim & Abdelreheem, 2015).

Suicidal ideation, in the context of this paper, was the willingness of university students (in the middle east) to take their lives. In other words, suicidal ideators are individuals who currently have plans and wishes to commit suicide but have not made any recent overt suicide attempt (Beck et al., 1979). Since suicide ideation and history of self-injurious acts are remarkably common in college students (Garlow et al., 2007), we thought it would be interesting to see if studies published in the Middle East support this hypothesis. Although suicide intent may be regarded as a phenomenon subject to exploration and measurement, the suicidal risk is a predictive statement of the probability of the occurrence of a fatal suicide attempt. As suicide ideation logically precedes a suicide attempt or completed suicide, this measure would be essential to assess suicide ideation of university students (Beck et al., 1979).

For this paper, we considered the University students of all ages and majors. Since there are not enough published articles on the subject, we will not reject papers published based on majors or gender. The only criteria used was the geographical location of the university in which research was conducted.

The Britannica Encyclopedia (2018) was used to identify Middle Eastern Countries, which included; Morocco, Iran, Turkey, Syria, Lebanon, Iraq, Israel, Palestine, Saudi Arabia, UAE, Bahrain, Qatar, Oman, Kuwait, Morocco, Tunisia, Algeria, and Pakistan.

3. Methods:

3.1. Search Strategy and Study Eligibility:

For this paper, the articles identified cross-sectional and longitudinal studies published prior to March 2018. We systematically searched Databases such as Google Scholar, UAEU Online Library and Wiley Online Library, psycARTICLES and PsycINFO. In addition to that, the authors screened reference lists of identified articles and found eligible articles.

For the database searches, keywords such as "depression" "suicidal ideation" "University students" were used in isolation and in a combination with each other. Language and Geographical restrictions were imposed and only articles with findings of Middle Eastern

countries and in the English Language were used. Included studies report 1) reported data on University students, including medical students, 2) were published in journals (not all peer-reviewed) and 3) used a validated method to asses for depression, depressive symptoms and suicidal ideation.

3.2. Data Extraction:

The two authors, Fayyaz, N. and Beg, R., examined the published studies and took the following information from each study: the country where the study was done, the year(s) during which the study was done, the students' year in university, the number and percentage of male and female students in the study and the results of the study regarding the prevalence of depression and suicidal ideation among students.

4. Results:

4.1. Study Characteristics:

Out of some fifty studies, only thirteen were considered in the analysis as they fit the criterion. The thirteen studies which were analyzed included a total of 3451 individuals from seven countries. The median number of participants per study was 294. The range was 1200. All seven of the mentioned countries showed a prevalence of Depression and Depressive Symptoms. Whereas, suicidal ideation was prevalent in university students of only three countries.

4.2. Prevalence of Depression or Depressive Symptoms and Suicidal Ideation among Students:

The prevalence of depression or depressive symptoms reported by the 3451 individuals, with a mean age of 20.7 years, was estimated at 44.4% in University students in the Middle East. Studies conducted in Egypt and Saudi Arabia reported depressive rate higher than 50% in their students, 57.9% and 66.6% respectively. Comparatively, the lowest rate of depression was reported in Pakistan at 19.5%.

Interestingly, the prevalence of depression and Depressive symptoms was higher in women compared to men. Also, first-year students were likely to be more depressed than their senior counterparts. While we did not exclusively compare Depressive symptoms of students in different majors, students enrolled in Medical Universities were more depressed than non-medical students.

A study conducted on students in the medical college of Qassim University in Saudi Arabia investigated the prevalence of depression and anxiety among the students (Inam, 2007). The age range of the students in the study was not mentioned but the students were from their 1st, 2nd and 3rd years in the College of Medicine, Qassim University. The response rate of the 228 male students was 68.7% while the response rate for the 105 female students was 99.0%. The researcher, Bazmi Inam, used the Aga Khan University and Depression Scale (AKUADS). Part of



the study also looked into the suicidal tendencies of the students. It was reported that no suicidal ideation was reported by any of the students in the study, male or female (Inam, 2007).

Another study was done in the Fayoum Univeristy in Egypt (Wahed & Hassan, 2017). Data for the study was obtained from 442 university students whose ages ranged from 18 to 22 years with the mean age of 20.15. 172 males and 270 females agreed to take part in the study. The students were in the first up to the fourth academic years and were from varying socioeconomic levels. The study revealed not only an association between depression and stress with socioeconomic class but also that students of lower socioeconomic class or who were raised in poor families were more likely to report suicidal thoughts.

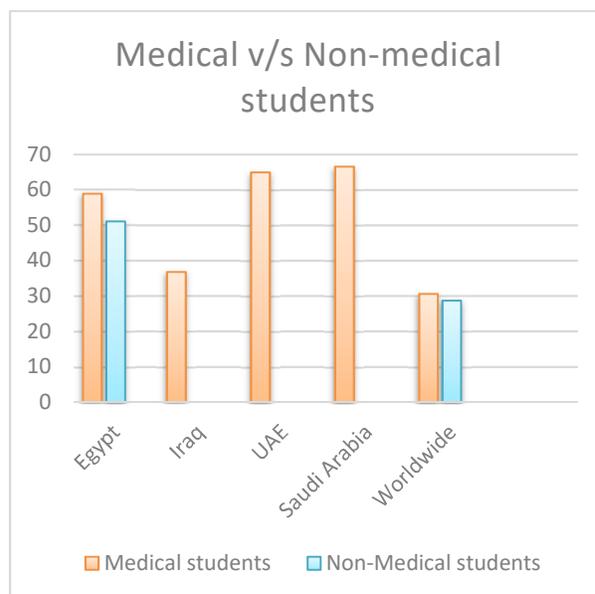
A study examining dating partner violence and suicidal ideation among university students worldwide also looked at a student in Israel (Chan et al., 2008). A total of 445 university students from Israel took part in the study, 79.6% of whom were females. The mean age of the participants was 30.9. Out of a total of 40.9, the rate of suicidal ideation for females was 14.3 and 8.4 for males. The study reported that suicidal ideation was found to be higher among females compared to males. Moreover, the rate of suicidal ideation was higher for females in Asia and Middle Eastern countries (Chan et al., 2008).

4.3. Statistical Representation of the Results:

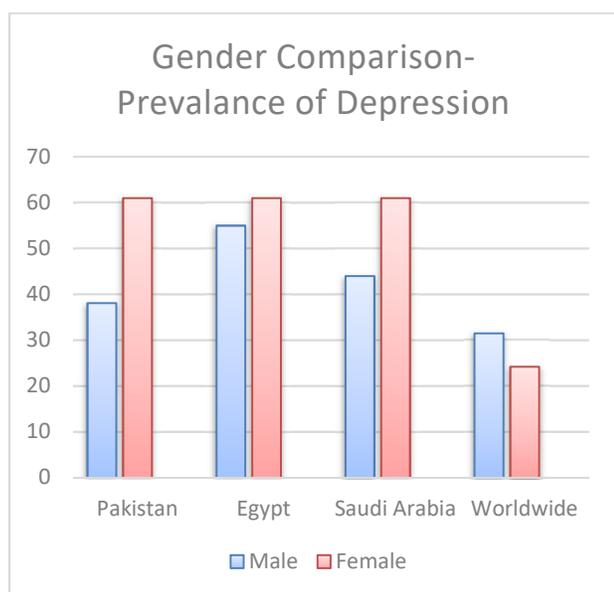
Table 1: Selected Characteristic of the Studies

Source	Country of Study	Year of Study	Total No. of Students in the Study	Age Range of Students	Mean Age	Year in University
Bazmi	Saudi Arabia	2007	333	NR	NR	1 st , 2 nd and 3 rd
Waheed & Hassan	Egypt	2017	442	18 – 22	20.15	1 st , 2 nd , 3 rd and 4 th
Chan et al.	Israel	2008	445	NR	30.9	NR

Graph 1. Gender Comparison.



Graph 2. Medical v/s Non-Medical Students



5. Discussion:

Regarding the prevalence of suicidal ideation among university students in the Middle East, only a few of the studies we gathered had data on the topic. Three studies with a total of 1,220 students from three Middle Eastern countries were examined.

The study in Saudi Arabia showed that suicidal ideation was not reported by any of the male or female participants (Inam, 2007). The author suggested that suicidal ideation is not very prevalent in the Middle East Islam is the religion followed by most countries in the Middle East and Islam prohibits suicide or suicidal ideation. In a study on college students in Kuwait, religiosity was found to be negatively associated with suicidal ideation (Abdel-Khalek & Lester, 2007). So, the more religious a person is, the less likely he or she is to have suicidal thoughts or temptations. As said by Inam (2007), Islam as the most common religion in the Middle

East could be inhibiting the prevalence of suicidal ideation among university students in the Middle East.

The study done in Egypt revealed an association between socioeconomic class and the likelihood to have suicidal ideation (Wahed & Hassan, 2017). The study suggested that students raised in poor families are more likely to report suicidal ideations while those who are better off are less likely to do so. However, the study did not mention the prevalence of suicidal ideation among university students in the study (Wahed & Hassan, 2017).

The focus of the study conducted in Israel was not the same as the topic of this paper yet valuable information can be taken from the study which is that suicidal ideation was more prevalent among females than males. There could be several factors that influence this finding such as the possible stigma surrounding mental illnesses in some places and the varying likelihood to report suicidal ideation.

Contradicting to what Inam (2007) said about Islam as an inhibitory factor for suicidal ideation, a study found that the prevalence of suicidal ideation was higher for females in Asia and Middle Eastern countries (Chan et al., 2008).

6. Limitations:

A major limitation of this paper was the limited number of studies done on the topic of depression and suicidal ideation in countries in the Middle East. Since mental health is a personal matter, it can be difficult to obtain information. So, people might be reluctant to share the state of their mental health or to admit that they are depressed or suicidal.

As data were collected from studies that had different designs, screening instruments, and trainee demographics, the analysis was not only difficult but also unexplainable at times. The analysis relied mainly on published literature which makes an error in terms of results highly possible. In other words, a prospective study using a single validated measure of depression and suicidal ideation with structured diagnostic interviews in a random subset of participants would provide a more accurate estimate of the prevalence of depression and suicidal ideation among undergraduate students.

Another limitation of this analysis is the difference in study design and the sample size. As most researchers have used questionnaires and one-on-one interviews, we may expect a bias in terms of participants not being upfront about their answers or being hesitant to answer a few questions. Furthermore, the selected was relatively small and not the reflection of the entire population.

We would also like to highlight that there was not enough research published and the responses were also not analyzed in-depth. Since the scales used were different, we cannot be sure of the degree of variance in the degree of severity of the depression symptoms. It is also worth mentioning that most tests were conducted on participants

with little or no knowledge about mental health, which is why it is possible that students may not have understood the full scope of the depressive symptoms mentioned.

Lastly, suicidal ideation was not tested in participants separately. This led to the ambiguity in the results as it was measured as a depressive symptom and not individually. This made it difficult to understand whether students are likely to kill themselves or not.

7. Future Direction and Recommendation:

Since there is a high prevalence of depression and suicidal ideation in university students, there is an urgent need to conduct researches across Middle Eastern universities to obtain the real picture. We also suggest conducting in-depth interviews and observations so that emotional and/or other stressors, which can cause depression and suicidal ideation in students, can be identified and be rectified. In addition to that, using the same measuring instrument with a relatively similar sample size to measure depression and suicidal ideation would be beneficial.

Furthermore, it is essential to measure suicidal ideation in university students as there is almost no substantial research conducted on this. We recommend a cross-sectional study.

In conclusion, there is a very strong need to understand the problem and then find significant solutions. Not only is it required to measure depression and suicidal ideation in university students, but also to find reasons why the results are relatively higher compared to other countries. We need to look at the curricula as well as the relief (financial/academic/psychological/social) provided to university students in the Middle East. It would also be a good idea to educate students about coping strategies and provide on-campus clinics and/or therapists to help cope with depression.

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