

Prevalence and Factors Associated with Depression among Adolescent Students

Khalid Yaseen. Mohammed ^{†1}, Dahlia Mwaffak Al katteb², Salim Shihab Ahmed ³

1. MBChB, FIBMS D&V,
Ibn-Sina Teaching Hospital,
Mosul, Iraq.

2. MBChB, FABHS D&V,
Ibn-Sina Teaching Hospital,
Mosul, Iraq.

3. PhD in Psychiatric
Mental Health Nursing,
Instructor, Higher health
institute/ Mosul, Nineveh
Health Directors, Iraq.

Abstracts: Background: Depression is a major public health concern, particularly among adolescents (1,12,19,20). This study aimed to determine the prevalence and associated factors of depression among adolescent students in Mosul, Iraq. for the period (1st) January to (18) April 2024.

Material and method: A descriptive study design was conducted to determine the levels of depression symptoms among adolescent students. The study was conducted using a stratified random sample of 300 students from preparatory schools in Mosul city in Iraq. Data was collected using the Beck Depression Inventory (BDI) and a socio-demographic questionnaire.

Results of the study: The findings revealed that while a large percentage of adolescents did not experience any depressive symptoms, 4.9% of participants reported varying degrees of depression, with some experiencing high levels of depressive symptoms.

Conclusion: The findings indicated varying levels of depression among the patients, with some experiencing high levels of depression symptoms.

Recommendation: The study provides valuable insights about the need of Health awareness and education, Family and community support, Multifaceted school programs, Continuous research and development, Continuous research.

Key words: Depression, Adolescent, Students, Mosul, Iraq.

Corresponding Author: Khalid Yaseen. Mohammed ,MBChB, FIBMS D&V,Ibn-Sina Teaching Hospital, Mosul, Iraq.

Copyright : © 2024 The Authors. Published by Vision Publisher. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Depression is a common mental health disorder characterized by persistent sadness, loss of interest or pleasure, feelings of worthlessness, and impaired sleep or appetite ^(1,2,3). It significantly affects overall well-being and can lead to academic difficulties, social isolation, and even suicidal ideation ^(4,5). The prevalence of depression among adolescents is alarmingly high globally, with an estimated 1.1% of adolescents aged 10-14 years and 2.8% of those aged 15-19 years affected ^(1,6). This prevalence is exacerbated by the fact that depression often goes undiagnosed and untreated, potentially leading to worsening symptoms and long-term consequences ^(6,7,8,9). The World Health Organization (WHO) noted a global increase of 18.4% in depression cases from the year 2005 to 2015 whereby over

322 million individuals were living with depression ⁽¹⁰⁾. Out of the 322 million individuals, depression affected 1.1% of adolescents aged 10 to 14 years as well as 2.8% of those aged between 15 and 19 years ^(11,12). Sadly, depression is the leading cause of suicide with an estimated number of 800,000 deaths annually ^(5,13,14, 15). The rates of depression and anxiety among college students have increased over the years. They are also two to three times at risk for depression and anxiety problems compared to the general population. Students experiencing difficulties coping with their studies have up to five times higher risk for depression and anxiety ⁽¹⁶⁾. The WHO further noted that suicide is the second leading cause of death globally among young individuals aged between 15 and 29 years ^(17,18,19). Thus, the presence of depression and depressive symptoms among adolescents translates to an increase in suicide risk ^(7,11,14). In Iraq, the post-conflict environment, social and economic challenges, and limited access to mental health services contribute to the vulnerability of adolescents to depression ⁽⁹⁾. This study aimed to provide valuable insights into the prevalence and potential factors associated with depression among adolescent students in Mosul, Iraq, to inform the development of targeted interventions.

Methods and Materials:

Study Design: A descriptive study design was conducted using a cross-sectional approach.

Setting of the Study:

According to official statistics released by the Educational Planning Department, Statistics Division, Directorate General of Education in Nineveh Governorate for the academic year 2019-2020, a total of 573 schools resumed classes for intermediate and secondary education during this academic year. This number was distributed between 346 schools for intermediate education and 227 schools for secondary education. The Nineveh Education Directorate confirmed that 130186 students enrolled in schools in Nineveh Governorate. <https://mop.gov.iq>. ⁽⁸⁾ For these numbers of schools, the researchers used a stratified random sampling method by dividing the schools of the city into two stratify; one the schools that fall in the right side and the second are the left_side schools.

Participants: A stratified random sample of 300 adolescent students was selected from preparatory schools in Mosul. The sample was stratified based on school location (right side and left side of Mosul city), with 150 students selected from each stratum randomly from each side of the city after obtaining the approval acceptance from Nineveh Education Directorate.

Ethical Approval: Ethical approval was obtained from the Nineveh Education Directorate, Department of Education, as well as from each school administration and participating student.

Study Instrument: Data was collected using two instruments:

- **Socio-demographic Questionnaire:** consisted of 10 items and gathered information regarding the participants' age, gender, high school level, marital status, housing status, family income, and smoking habits.
- **Beck Depression Inventory (BDI):** This widely used self-report questionnaire consisted of 27 items and assessed the severity of depressive symptoms based on a four-point Likert scale ⁽⁴⁾. The scoring of depression estimate as: Very severe depression (37- or more), Severe depression (24 – 36), Moderate depression (16 – 23), Mild depression (10 – 15), No depression (0 – 9).

Data collection method:

The researchers used a self-administered questionnaire method, where questionnaires were distributed to the students after a thorough explanation regarding the confidentiality of their responses. The students were assured that their names would not be associated with their responses. They were instructed to complete the questionnaire independently, taking approximately 40 to 60 minutes to do so.

Data Analysis: Data was analyzed using the Statistical Package for Social Sciences (SPSS) for Windows version 24. Descriptive statistics, including frequencies and percentages, were used to summarize the demographic data.

Results:

Table (1): Demographic Data for Assessing Depression Levels among Adolescent Students in Mosul City:

Variables	Frequencies	Ratio %
1- Age group		
16 - 18 years	130	43.33%
19 - 20 years	122	40.67%
21 – 22 years	48	16.00%
Total	300	100%
2- Gender		
male	168	56.00%
female	132	44.00%
Total	300	100%
3- High School		
Forth	138	46.00%
Fifth	122	40.67%
Sixth	40	13.33%
Total	300	100%
4- Marital status		
single	266	88.67%
married	34	11.33%
Total	300	100%
5- Housing status		
Own a house	248	82.67%
Rent a house	52	17.33%
Total	300	100%
6- Monthly family income		
poor	70	23.33%
Medium	90	30.00%
Good	140	46.67%
Total	300	100%
7- Smoking		
Smoker	49	16.33%
Non smoke	251	83.67%
Total	300	100%

The data in this table shows a majority of the study participants were young adults (16-22 years old), with males dominating over females. The most represented group was students in the fifth grade, with a majority of them being single and living in their own homes.

Figure (1) distribution the numbers of student and depression levels

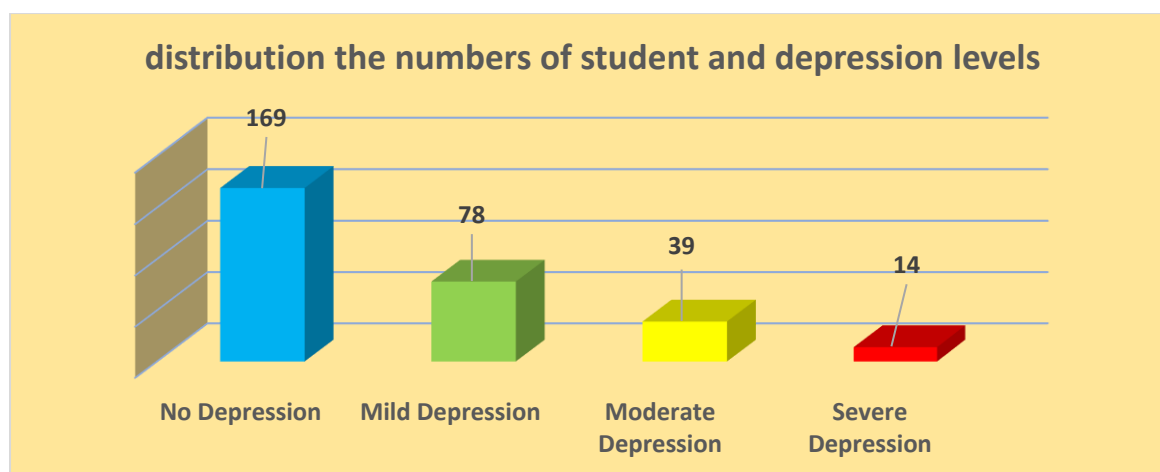
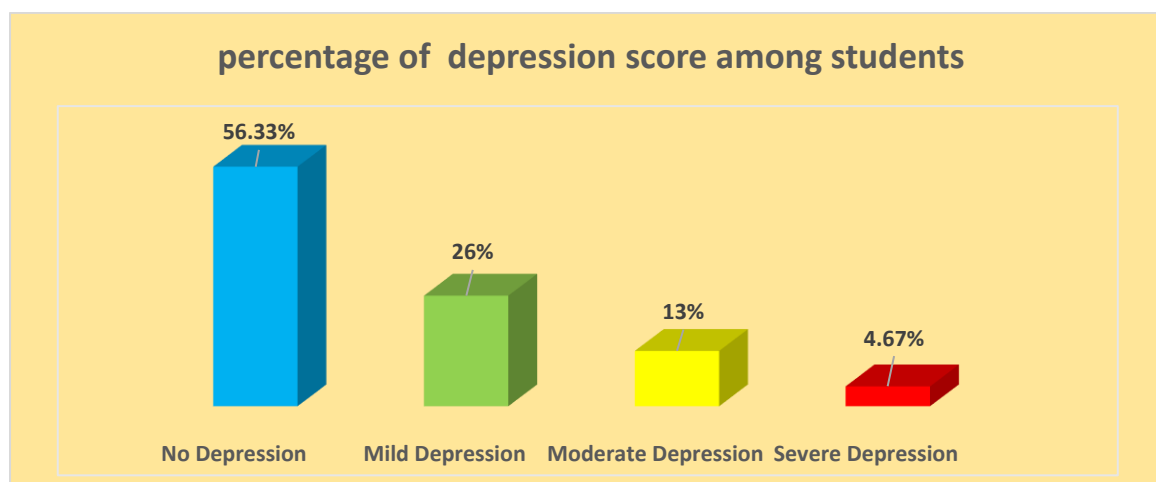


Figure (2) levels and percentage of depression among adolescent students



The figures, numbered 1 and 2, illustrate the distribution of students according to their depression levels, presenting both the numerical count and the percentage at each level:

- **No Depression:** Approximately 169 students (56.33% of 300)
- **Mild Depression:** Approximately 78 students (26% of 300)
- **Moderate Depression:** Approximately 39 students (13% of 300)
- **Severe Depression:** Approximately 14 students (4.47% of 300)

Discussion of the results:

The study found that while a significant portion of the adolescent students in Mosul did not experience any depressive symptoms (56.4%), a considerable percentage reported varying degrees of depression. Approximately 26.5% exhibited mild depression, 13.14% moderate depression, and 4.48% severe or very severe depression. These findings highlight the prevalence of depression among adolescent students in Mosul and the need for mental health interventions.

Analysis of Potential Factors Associated with Depression:

The study identified several factors that may be associated with depression among adolescent students in Mosul, based on the collected demographic data. Further research is needed to confirm these associations and investigate the underlying mechanisms:

- **Age:** While the study found a relatively even distribution of students across different age groups, the youngest group (16-18 years) appeared to have a slightly higher proportion of those experiencing some level of depression compared to the older groups (19-20 years and 21-22 years). This suggests that younger adolescents may be more vulnerable to depression, potentially due to the challenges of transitioning into adulthood and managing academic pressures.
- **Gender:** The study found a slightly higher prevalence of depression among female students than male students (44% vs. 56%). This aligns with previous studies suggesting that girls and women are more susceptible to depression than boys and men. While the exact reasons for this difference are not fully understood, potential contributing factors include biological, social, and cultural factors.
- **High school level:** There was a slight trend of higher depression levels among students in the lower grades (fourth and fifth). This could be related to the increased academic demands and social pressures that often accompany higher grades.
- **Marital status:** The study found that a majority of the students were single, with only a small percentage being married. There was no notable association between marital status and depression levels in this sample. Further research is needed to explore the potential impact of marriage on mental health during adolescence.

- **Housing status:** The majority of students lived in their own homes, with a smaller percentage renting. The study did not reveal any significant differences in depression levels between students living in their own homes and those renting.
- **Monthly family income:** A higher proportion of students reported having a "good" monthly family income, while a smaller percentage reported having "poor" or "medium" income. The study did not observe any clear associations between income level and depression levels.
- **Smoking:** The prevalence of smoking among the study participants was relatively low. A small percentage of students reported smoking, and there was no significant association between smoking and depression levels. Further research is needed to explore the complex relationship between smoking and mental health in adolescents.

Limitations: This study has several limitations that should be considered when interpreting the findings:

- **Limited sample size:** The sample size was relatively small, limiting the generalizability of the findings to the wider adolescent population in Mosul.
- **Self-reported data:** The study relied on self-reported data, which is susceptible to recall bias and social desirability bias. Future studies could benefit from utilizing multiple data sources, including clinical assessments and interviews.
- **Focus on preparatory schools:** The study focused solely on preparatory schools, excluding other types of schools in Mosul. This may limit the representativeness of the findings.

Recommendations:

The findings of this study highlight the need for addressing mental health issues among adolescent students in Mosul:

- **Mental health awareness and education:** Schools should implement comprehensive mental health education programs to raise awareness about depression, its symptoms, and the importance of seeking help.
- **Family and community support:** Parents, families, and communities should be encouraged to provide support and understanding to adolescents struggling with depression.
- **Multifaceted school programs:** Schools should implement multifaceted programs that address academic stress, promote healthy coping mechanisms, and foster positive social interactions.
- **Continuous research and development:** Ongoing research is needed to further investigate the factors associated with depression among adolescents in Mosul and to develop culturally appropriate interventions.
- **Increased access to mental health services:** Efforts should be made to increase the availability and accessibility of mental health services for adolescents, particularly in underserved areas like Mosul.

Conclusion:

This descriptive study provides valuable insights into the prevalence of depression among adolescent students in Mosul, Iraq. While a significant portion of the students did not experience depression, a substantial number reported varying levels of depressive symptoms. The study highlights the need for increased awareness, early intervention, and comprehensive support systems to address mental health concerns among adolescents in this region.

References

1. Al Rashed, A. S., Al-Naim, A. F., Almulhim, B. J., Alhaddad, M. S., Al-Thafar, A. I., Alali, M. J., ... & Bougmiza, I. (2019). Prevalence and associated factors of depression among general population in Al-Ahsa, Kingdom of Saudi Arabia: A community-based survey. *Neurology, Psychiatry and Brain Research*, 31, 32-36.
2. Alibudbud, R. (2021). Academic Experiences as Determinants of Anxiety and Depression of Filipino College Students in Metro Manila. *Youth Voice Journal*.
3. American Academy of Pediatrics. (2018). Mental Health and the School-Aged Child and Adolescent: A Compendium. Retrieved from <https://publications.aap.org/pediatrics/article/142/4/e20182681/24531/Mental-Health-and-the-School-Aged-Child-and>

4. Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An Inventory for Measuring Depression. *Archives of General Psychiatry*, 4(6), 561-571.
5. Centers for Disease Control and Prevention. (2020). Mental Health: Depression among Teens. Retrieved from <https://www.cdc.gov/childrensmentalhealth/features/depression-teens.html>
6. Conerly, M. A., Stice, E., & Shaw, H. A. (2019). Predictors of Treatment Seeking for Mental Health Problems in Adolescence. *Journal of Abnormal Child Psychology*, 47(7), 1349-1362.
7. Hays, R. D., & Paloutzian, R. F. (2008). *The Spheres of Life Questionnaire: Development, validation, and application*. Springer.
8. Ministry of Education – Iraq 2022. Retrieved from ; <https://mop.gov.iq/>
9. Islam, M. S., Rahman, M. E., Moonajilin, M. S., & van Os, J. (2021). Prevalence of depression, anxiety and associated factors among school going adolescents in Bangladesh: Findings from a cross-sectional study. *Plos one*, 16(4), e0247898.
10. Lafta, R. K., & Merza, A. K. (2021). Women’s mental health in Iraq post-conflict. *Medicine, Conflict and Survival*, 37(2), 146–159. <https://doi.org/10.1080/13623699.2021.1946903>
11. Lancet. (2017). Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. Retrieved from [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)32007-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)32007-9/fulltext)
12. National Institute of Mental Health. (2021). Depression. Retrieved from <https://www.nimh.nih.gov/health/topics/depression>
13. Schwartz, J. L., Cohen, D., & Brook, J. S. (2020). The Impact of Depression on Adolescent Development. *Current Opinion in Psychiatry*, 33(5), 454-459.
14. Singh, S. K., Kaur, M., & Singh, M. (2023). The Prevalence and Correlates of Depression Among Adolescent Students: A Review. *International Journal of Community Medicine and Public Health*, 10(2), 182-194.
15. Tang, X., Tang, S., Ren, Z., & Wong, D. F. K. (2020). Psychosocial risk factors associated with depressive symptoms among adolescents in secondary schools in mainland China: A systematic review and meta-analysis. *Journal of affective disorders*, 263, 155-165.
16. The American Psychological Association. (2022). Mental Health in America. Retrieved from <https://www.apa.org/topics/mental-health-in-america>
17. The Mental Health Foundation. (2023). Depression. Retrieved from <https://www.mentalhealth.org.uk/a-to-z/d/depression>
18. The National Survey on Drug Use and Health. (2020). Mental Health Findings. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2020/NSDUH-FFR1-2020.pdf>
19. World Health Organization. (2016a). Depression. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/depression>
20. World Health Organization. (2017). Mental health: strengthening our response. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>