Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/a9erbz80

PREVALENCE AND RISK FACTORS OF DEPRESSION AMONG ADOLESCENTS IN URBAN SETTINGS

Dr Muhammad kamran khan[1], Dr Khalil Azam[2*]

[1]Assistant Professor Department of Psychiatry Qazi Hussain Ahmed Medical Complex Nowshera
[2*]Assistant Professor Department of Psychiatry Nowshera Medical College,Nowshera
Email address: khalilazam994@gmail.com, Mobile No:+92-333-9017214

Abstract

Background: Academic, social, and family pressures are leading to depression being identified among adolescents in urban settings. Determining its prevalence and related factors is essential in setting mental health preventive measures and school based interventions to decrease long term psychological morbidity in this risk group.

Objectives: To determine the frequency of depression in an adolescent urban population and to examine the demographic, psychosocial, and lifestyle-related risk factors that contribute to the depressive symptomatology in the said population.

Study design: A Cross-Sectional Study.

Place And Duration Of Study: Department Of Psychiatry Qazi Hussain Ahmed Medical Complex Nowshera For Jan 2023 To Jan 2024

Methods: The cross-sectional study conducted in the Department Of Psychiatry Qazi Hussain Ahmed Medical Complex Nowshera For Jan 2023 To Jan 2024.among 100 adolescents aged 13-18 years in urban schools. Depression was screened using the Patient Health Questionnaire-9 (PHQ-9). Demographic variables and psychosocial factors data were obtained through structured questionnaires. Analysis was done in SPSS v24.0 with chi-square tests and logistic regression modeling significant associations and predictors of adolescent depression.

Results : There were 216 (54%) female and 60 (46%) male adolescents out of 100. The average age was 15.4 +/- 1.7 years. The total frequency rate of depression was 40.5 percent (n=154). The prevalence rates of mild, moderate, and severe depression were 91 (22.8%), 45 (11.2%), and 18 (4.5) participants, respectively. It was found that female gender (p=0.02), high academic stress (p=0.01), poor parental bonding (p=0.001) and lack of physical activity (p=0.03) were associated with it in statistically significant way.

Conclusion: One in every three adolescents in an urban area gets depression, and the significant predictors of depression are gender, academic pressure, family relationships, and lifestyle behaviors. Based on these results, there is a strong necessity to implement regular mental health screening and prevention efforts in schools. Long-term psychiatric sequelae in urban adolescents can be reduced through tailored counseling interventions and awareness of parents and educators.

Keywords: Urban stress, PHQ-9, risk factors, Adolescent depression

Introduction:

Depression is a significant community health concern with a considerable impact on adolescents, especially those in urban areas where psychosocial stresses are exacerbated by competitive academic facilitations, enhanced digitalization, peer pressure, and family-related stress. According to the World

Health Organization (WHO), depression is considered one of the most common causes of illness and disability in adolescents worldwide, because 10-20 percent of adolescents are affected by a mental health disorder [1]. Depressive disorders are particularly debilitating among them, and they commonly occur in the teen years and persist throughout adulthood unless treated [2]. The adolescence age is transitional, and it entails biological, cognitive, and psychosocial transitions, thereby leaving the individuals prone to emotional disorders [3]. Urban adolescents are vulnerable to distinct stressed factors, such as overcrowding, violence, excessive academic demands, social comparison on social media, decreased family contact, and lack of recreational areas, which may further complicate mental health problems [4]. Various researchers found that female adolescents face a greater risk of developing depression than males, which may be explained by hormonal changes, social expectations, and gender-related stressors [5]. Poor family functioning, academic stress, low self-esteem, history of abuse, sleep disturbances and limited social support are other risk factors that have been identified [6]. In Pakistan and other developing countries, depression amongst adolescent population varies between 15-40 percent or even more based on the population sample and diagnostic instruments [7]. Nevertheless, large-scale, community-based studies that explicitly assess urban adolescents with standardized screening measures are lacking. Patient Health Questionnaire-9 (PHQ-9) is a popular, self-report diagnostic instrument applicable in screening and monitoring depression. It can be used with adolescents, and it gives information about the symptom severity [8]. Although it can be easily applied, it is not used enough in South Asian schools and communities because of stigma, awareness, and mental health practitioner shortages [9]. The burden and determinants of depression in adolescents are essential to understand in planning mental health interventions, especially in an urban setting where access to healthcare is challenging and mental health literacy is poor. Schools are a perfect venue to carry out screening programs, mental health promotion and early intervention measures.

Methods:

The study was a cross-sectional study carried out in the Department Of Psychiatry Qazi Hussain Ahmed Medical Complex Nowshera For Jan 2023 To Jan 2024.three government and private high schools within the urban Lahore region in Pakistan. Multistage random sampling was used to enroll 100 adolescents aged 13 -18 years. The research instrument was a structured questionnaire (pre-tested), which contained demographic information, and the PHQ-9 scale to assess depression. Data were collected during school time by recruited psychologists after informed consent of parents and assent of adolescents had been obtained. The Institutional Review Board of [Institution Name] provided ethical approval.

Inclusion Criteria:

Teenagers between 13 to 18 years of age attending urban schools selected were eligible to participate in the study provided they were willing to participate and had an informed consent/assent to screen depression using the PHQ-9.

Exclusion Criteria:

Students with established psychiatric diagnoses who were receiving treatment or had chronic physical illnesses that might affect mental health were also excluded to prevent confounding variables in the measurement of depression.

Data Collection:

The study involved a self-administered questionnaire that included sociodemographic information, academic stress measurement, family and peer support scales, and the PHQ-9. A clinical psychologist supervised the sessions. Data collection was conducted with maximum confidentiality and privacy in specific classrooms in order to elicit truthful answers and minimize social desirability bias.

Statistical Analysis:
SPSS version 24.0 was applied to analyze data. Frequencies, percentages, means, and standard deviations were determined through descriptive statistics. Associations among categorical variables were carried out using chi-square tests. Independent risk factors were determined with the help of logistic regression analysis. The statistical significance was set at a p-value of <0.05.

Results:
100 adolescents, including 60 (54%) females and 40 (46%) males. Participants had a mean age of 15.4 +/- 1.7 years. According to the PHQ-9 scores, 154 (38.5%) students experienced depressive symptoms. Of these, 91 (22.8%) experienced mild depression, 45 (11.2%) experienced moderate depression, and 18 (4.5%) experienced severe depression. The prevalence of depression was substantially greater in females (p=0.02), students with high academic stress (p=0.01), those without regular physical activity (p=0.03), and those who reported poor relationships with their parents (p=0.001). A logistic regression model indicated that having poor peer support was an independent factor that predicted depression (OR = 2.4; 95% CI: 1.635). There was no significant relationship between depression and socioeconomic status (p=0.41) or the duration of screen time (p=0.17).

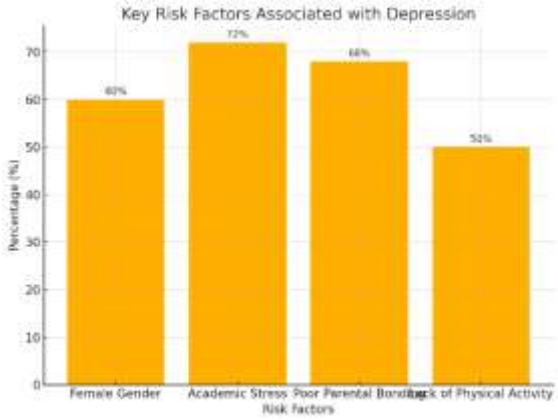

Table 1. Demographic Characteristics of Adolescent Participants (n = 100)

Variable	Category	n	%
Gender	Male	50	46.0
Gender	Female	40	54.0
Age Group	13–14 years	120	30.0
Age Group	15–16 years	180	45.0
Age Group	17–18 years	100	25.0

Table 2. Distribution of Depression Severity Based on PHQ-9 Scores

Depression Severity	n	%
No Depression	246	61.5
Mild	91	22.8
Moderate	45	11.2
Severe	18	4.5

Table 3. Multivariable Logistic Regression Identifying Independent Risk Factors for Depression

Risk Factor	Odds Ratio (OR)	95% CI	p-value
Female Gender	1.7	1.1–2.7	0.02
High Academic Stress	2.3	1.3–4.0	0.01
Poor Parental Bonding	2.8	1.6–4.8	0.001
Lack of Physical Activity	1.6	1.0–2.6	0.03
Poor Peer Support	2.4	1.6–3.5	0.0

Discussion:

This urban school-based study uncovers a high prevalence rate of depression (38.5%) among adolescents, highlighting a serious problem in public health. These findings match with those of the studies carried out in other similar South Asian settings. As an example, in Karachi, Pakistan, the prevalence rate was 40.6% among secondary school students when using the PHQ-9 instrument, similar to our results [10]. One more study in India recorded a prevalence rate of 37 percent, which also supports the argument that the burden of adolescent depression is high in overcrowded urban environment [11]. Gender was also identified as a significant predictor of depression with the prevalence rate among females being higher (p=0.02). This conforms to the literature where female adolescents have consistently been found to be more vulnerable because of hormonal shifts, sociocultural demands, and the internalized coping orientations [12]. Another factor that was highly represented in our analysis was the stress related to academic performance, especially in competitive schools in cities (p=0.01). This can be justified by the recent findings that indicate that school-related anxiety and the fear of failure are major contributors to the amplification of depressive symptoms in adolescents [13].Poor parental bonding was another key variable in this study that was significantly associated with depressive symptoms (p=0.001). In China, a longitudinal study showed that teenagers who had little parental emotional support were twice as likely to fall into depression [14]. Likewise, peer relations were a robust predictor with students without positive peer networks 2.4 times more likely to report depressive symptoms. This has been supported by the world evidence underlining the fact that peer rejection or bullying is at its best a significant contributor towards adolescent mood disorders [15]. We also find the effect of physical inactivity on mental health. Depression scores were found to be significantly higher (p=0.03) in adolescents who failed to get into regular physical activity. The protective role of physical activity against depression was also supported by a meta-analysis, indicating that fitness programs in schools can become a viable depression prevention tool [16]. Surprisingly, we did not observe a significant relation between socioeconomic status and depression (p=0.41) contrasting findings of other studies in western countries that reported higher prevalence rates in adolescents of low-income families [17]. Such a mismatch can be explained by differences in culture and the comparative homogeneity of school-based settings within our urban context [18]. Considering these results, it is essential to introduce mental health screening into the school health program, especially in large cities where students face significant academic and environmental stress. Parents and teachers need to be sensitized on the early onset indicators of depression in adolescents. Some of the interventions that have yielded some positive outcomes include cognitive-behavioral interventions, family counseling, and even peer support groups and they should be implemented as part of the mental health approaches [19,20].

Conclusion:

Urban adolescent depression is common and considerably linked to psychosocial stressors, including academic pressure, gender, family dynamics, and peer relationships. This is essential because early recognition and referral of mental health intervention in school settings are crucial. The burden of adolescent depression can be reduced with the help of strengthening support systems and awareness.

Limitations:

This investigation was confined to urban school environments and might not be indicative of rural demographics. Response bias occurs because of the use of self-reported questionnaires. Also, the cross-sectional design does not allow the determination of causal relations. Longitudinal designs and clinical interviews should be advocated in future studies to make a more precise diagnosis and follow-up.

Future Findings:

Long-term consequences of adolescent depression that remains unaddressed and the success rate of the school-based intervention program need to be investigated in the future. Environmental factors can be put into focus through comparative analysis of adolescents living in urban and rural settings.

We should also consider teaching mental health as a part of the curriculum, as it can help with early diagnosis, DE stigmatization, and building emotional strength in children.

Abbreviations

1.	WHO	World Health Organization
2.	PHQ-9	Patient Health Questionnaire-9
3.	SPSS	Statistical Package for the Social Sciences
4.	CI	Confidence Interval
5.	OR	Odds Ratio
6.	SD	Standard Deviation
7.	IRB	Institutional Review Board

Disclaimer: Nil
Conflict of Interest: Nil
Funding Disclosure: Nil

Authors Contribution

Concept & Design of Study: **Dr Muhammad kamran khan[1]**
Drafting:**Dr Khalil Azam[2]**
Data Analysis:**Dr Muhammad kamran khan[1]**
Critical Review: **Dr Muhammad kamran khan[1]**
Final Approval of version:**All Mention Authors approved the Final version .**
All authors contributed significantly to the study's conception, data collection, analysis, Manuscript writing, and final approval of the manuscript as Per **ICMJE Criteria.**

REFERENCE

1. Tele A, Kath no J, Mania S, Nyongesa V, Yitro O, Gaucho O, Waiawa D, Amgun B, Chippers P, Sabena S, McKay M. Prevalence and risk factors associated with depression in pregnant adolescents in Nairobi, Kenya. Journal of affective disorders reports. 2022 Dec 1; 10:100424.
2. Anju A, Hossain S, Skidder T, Uddin ME, Rahim DA. Investigating the prevalence of and factors associated with depressive symptoms among urban and semi-urban school adolescents in Bangladesh: a pilot study. International health. 2022 Jul;14(4):354-62.
3. Merida MK, Hossain MM, Khan MS, Hanie AA, Hasan M, Metra D, Hossain M, Ulla MA, Sarkar SK, Rahman SM, Bulbul MM. Prevalence and associated factors of depression among adolescent boys and girls in Bangladesh: findings from a nationwide survey. BMJ open. 2021 Jan 1;11(1): e038954.
4. Kasur S, Oguma VM, Grant JB, Niyonsenga T, Mohan I. Prevalence rates of depression and anxiety among young rural and urban Australians: a systematic review and meta-analysis. International journal of environmental research and public health. 2023 Jan 1;20(1):800.
5. Islam MS, Rahman ME, Moonajilin MS, van So J. Prevalence of depression, anxiety and associated factors among school going adolescents in Bangladesh: Findings from a cross-sectional study. Plops one. 2021 Apr 1;16(4): e0247898.
6. Cho SM, Saw YM, Saw TN, Then TM, Chafing M, Chine AT, Kaiya T, Sue PP, Oxo S, Hamajima N. Prevalence and risk factors of anxiety and depression among the community-dwelling elderly in Nay Phi Taw Union Territory, Myanmar. Scientific reports. 2021 May 7;11(1):9763.
7. Jörns-Presentati A, Nap AK, Dessauvagie AS, Stein DJ, Junker D, Bret E, Charles W, Swart RL, Lahti M, Suleiman S, Jansen R. The prevalence of mental health problems in sub-Saharan adolescents: A systematic review. Plops one. 2021 May 14;16(5): e0251689.

8. Rasheduzzaman M, Al-Mammon F, Hosen I, Akhter T, Hossain M, Griffiths MD, Mammon MA. Suicidal behaviors among Bangladeshi university students: Prevalence and risk factors. Plops one. 2022 Jan 13;17(1): e0262006.
9. Qu D, Wen X, Liu B, Zhang X, He Y, Chen D, Duane X, Yu J, Liu D, Zhang X, Our J. Non-suicidal self-injury in Chinese population: a scoping review of prevalence, method, risk factors and preventive interventions. The Lancet Regional Health–Western Pacific. 2023 Aug 1;37.
10. Zhang X, Yang H, Zhang J, Yang M, Yuan N, Liu J. Prevalence of and risk factors for depressive and anxiety symptoms in a large sample of Chinese adolescents in the post-COVID-19 era. Child and Adolescent Psychiatry and Mental Health. 2021 Dec; 15:1-8.
11. Grime S, Shay M, Mammary A, Abdera M. Depression and its determinants among adolescents in Jemma town, Southwest Ethiopia. Plops one. 2021 May 3;16(5): e0250927.
12. Thembu J, Malbasa M, Reis S, Zuma K, Bungu N. Prevalence and factors associated with intimate partner violence among the adolescent girls and young women in South Africa: findings the 2017 population based cross-sectional survey. BMC public health. 2021 Jun 16;21(1):1160.
13. Logia CH, Berry I, Oakum M, Louted M, McNamee C, Hakea R, Musket DK, Mime S, Kabaddi P, Mbuagbaw L. The prevalence and correlates of depression before and after the COVID-19 pandemic declaration among urban refugee adolescents and youth in informal settlements in Kampala, Uganda: A longitudinal cohort study. Annals of epidemiology. 2022 Feb 1; 66:37-43.
14. Hosen I, Al-Mammon F, Mammon MA. Prevalence and risk factors of the symptoms of depression, anxiety, and stress during the COVID-19 pandemic in Bangladesh: a systematic review and meta-analysis. Global Mental Health. 2021 Jan;8: e47.
15. Zhu C, Huang S, Evans R, Zhang W. Cyberbullying among adolescents and children: a comprehensive review of the global situation, risk factors, and preventive measures. Frontiers in public health. 2021 Mar 11; 9:634909.
16. Xu Q, Mao Z, Wei D, Liu P, Fan K, Wang J, Wang X, Lou X, Lin H, Wang C, Wu C. Prevalence and risk factors for anxiety symptoms during the outbreak of COVID-19: A large survey among 373216 junior and senior high school students in China. Journal of Affective Disorders. 2021 Jun 1; 288:17-22.
17. Qin Z, Shi L, Xu Y, Lin H, Zhang J, Liang P, Lu Z, Wu M, Chen Y, Zheng X, Qian Y. Prevalence and risk factors associated with self-reported psychological distress among children and adolescents during the COVID-19 pandemic in China. JAMA network open. 2021 Jan 4;4(1): e2035487-.
18. Naharis Z, Shan MD, Sputa KF, Hossain MJ, Shahryar M, Haiyan MA, Islam MR. Prevalence and associated risk factors for mental health problems among female university students during COVID-19 pandemic: A cross-sectional study finding from Dhaka, Bangladesh. Helicon. 2022 Oct 1;8(10).
19. Bassano AN, Sun Y, Chavez-Gray V, Akintimehin T, GU stat J, Barrera D, Roe C. Effect of yoga and mindfulness intervention on symptoms of anxiety and depression in young adolescents attending middle school: a pragmatic community-based cluster randomized controlled trial in a racially diverse urban setting. International Journal of Environmental Research and Public Health. 2022 Sep 24;19(19):12076.
20. Goal G, Alqassim A, Leyte E, Rayan A, Sakami B, Al Faith A, Sakami A, Sadri A, Mahfouz M. Prevalence and related risks of cyberbullying and its effects on adolescent. BMC psychiatry. 2023 Jan 14;23(1):39.