

Prevalence and severity of depression among school going adolescents in Agroha block of Haryana

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Abstract

Introduction: Depression is a substantial and largely unrecognized problem among adolescents that warrants an increased need and opportunity for identification.

Objective: To find out the prevalence and severity of depression among school going adolescents in Agroha block of Haryana.

Material and Methods: A cross-sectional study was carried out among 300 school going adolescents of class 8th to 12th, from ten government senior secondary schools of block Agroha. Thirty students from each school and 6 students from each class were enrolled for the study. After this, 3 boys and 3 girls from each class

were selected by simple random sampling and were administered tools of data collection. Primary tool in this study was a predesigned and pretested interview schedule. Patient Health Questionnaire-9 modified for adolescents (PHQ-A) was used to screen the participants for depression.

Results: The prevalence of major depressive disorder was found to be 4.7% and that of other depressive disorders was 17.0%. On the basis of severity scale 6.7%, 8.0%, 3.3% and 3.7 adolescents had minimal, mild, moderate and moderately severe depression, respectively; and none had severe depression. The risk of developing suicidal ideation among those who had major

depressive plus other depressive disorders was 19.14 times higher as compared to those who haven't depression (CI= 2.095-174.8).

Conclusion & Recommendations: More than one fifth of the adolescents had major and other depressive disorders. Therefore, it is important to identify the felt needs of the adolescents and the services should be demand driven.

Keywords: Prevalence of depression, Severity of depression, School going adolescents

Introduction

Depression is one of the under-recognized health problems among adolescents due to their inability to disclose their feelings and reluctant to seek psychiatric help. However, growing body among adolescents not only experience the whole spectrum of mood disorders but also suffer from significant morbidity and mortality associated with them.¹ Less than three decades ago depression was seen as a predominantly adult disorder because children were considered too developmentally immature to experience depressive disorders and adolescent's low mood was seen as part of 'normal' teenage mood swings. But, now a day depressive disorder is also identified as priority mental health disorder among adolescents because of its high prevalence, recurrence, ability to cause significant complications and impairment.

The burden of depression and other mental health conditions is on the rise globally. It is estimated that at least 5% of adolescents, roughly 1 in 20 teenagers will experience an episode of major depression, making it one of the most common medical illnesses, which young people face. Community and school sample studies from different parts of the world of adolescents have shown

that depression is the most common psychiatric disorder among adolescents.²

In fact, adolescence is a critical period for the development of both depressive symptoms and depressive disorders.³ Depressive symptoms among adolescents are often attributed to the normal stress seen at this stage of life.⁴ This is often misdiagnosed as primarily conduct or substance abuse disorders. Neglecting depression among adolescents can have a tragic and deleterious effect⁴, often associated with an increased risk of suicide. It is well-known that suicide rates among adolescents have nearly tripled in the last 50 years⁴, with more than half of adolescent suicide victims reported to have a depressive disorder at the time of death. Regrettably, adolescents who experience depression at an early age often struggle with depression throughout their lives.⁵ Furthermore early onset of depression predicts more severe depression during adulthood.⁶ Even subclinical depression during adolescence increases the risk of major depressive disorders 2-3-fold as an adult.⁶ Thus, to recognise and treat this disorder at the earliest is important. Keeping all the above facts in mind and due to paucity of studies on mental health of adolescents, need was felt to assess the prevalence and severity of depression among school going adolescents in Agroha block of Haryana.

Materials and methods

The Study Area

The present study was carried out in government senior secondary schools in the Agroha block of district Hisar (Haryana). There are ten Community Development Blocks (C.D. Blocks) in district Hisar of state Haryana.⁷ Agroha block is one of the rural blocks. Maharaja Agrasen Medical College is situated in village Agroha of block Agroha. Therefore, taking

operational feasibility into consideration, block Agroha was selected for the study. A list of all government senior secondary schools of block Agroha was obtained from the Block Education Office of Agroha. There are 10 government senior secondary schools in this block. All the government senior secondary schools were enrolled for the study.

Study Design

The approach adopted for this school-based study was cross sectional one.

Study Population:

Adolescents studying in class 8th, 9th, 10th, 11th and 12th in government schools.

Study Period

The study was conducted from August 2021 to July 2022.

Inclusion Criteria

1. Adolescents studying in class 8th-12th in government schools of Agroha block.
2. Adolescents who were willing to participate and whose parents/ guardians gave consent for the participation of adolescents in the study.

Exclusion Criteria

1. Adolescents who were not willing to participate in the study and whose guardian did not give their consent.
2. Adolescents who were physically challenged or had any other major illness.

Sample Size Estimation

Sample size estimation was based on the extent of prevalence of depression (25%) among school going adolescents.⁸ By taking this prevalence with 95% confidence interval and an absolute error of 5%; the sample was computed as 288. In all, 300 adolescents were enrolled for the study.

Sampling Technique

To cover the desired sample size of 300, thirty students (who fulfilled the inclusion & exclusion criteria) from each school and 6 students from each class (i.e. 8th, 9th, 10th, 11th and 12th) were enrolled for the study. For this, lists of students from 8th to 12th class were obtained and the students were numbered consecutively in each class as per their roll numbers. After this, 3 boys and 3 girls from each class were selected by simple random sampling.

Study Tools

Primary tool in this study was a predesigned and pretested semi structured interview schedule for collecting the information. Other tool used in this study was Patient Health Questionnaire-9 modified for adolescents (PHQ-A)⁹ to screen the participants for depression and its severity. This module scores each of nine criteria from '0' (not at all) to '3' (nearly every day). According to PHQ-9, "major depressive disorder" is diagnosed if five or more of the nine depressive symptoms are present at least for 'more than half the days' in the past two weeks, and one of the symptoms is depressed mood or anhedonia. One of the nine criteria (thoughts that you would be better off dead or of hurting yourself in some way) counts if present at all, regardless of duration. "Other depressive disorder" is diagnosed if two, three or four depressive symptoms are present at least 'more than half the days' in the past two weeks, and one of the symptoms is depressed mood or anhedonia. In terms of severity, those with score of 0-4 are categorized as having no or minimal depression, score of 5-9, 10-14, 15-19 and 20-27 indicate mild, moderate, moderately severe and severe depression, respectively.⁹

Data Collection

A written permission from the District Education Officer (DEO) of district Hisar was obtained prior to conducting the study. Furthermore, an informed written consent was sought from the parents/guardians of the study subjects to seek their co-operation before initiating the study. The interviewer himself administered the tools of data collection. Information was collected in the proforma at the school premises in one room which was made available for the purpose. The proforma containing information was explained in their own language. The anonymity and confidentiality of the respondents were maintained.

Data Analysis

The data thus collected were entered and compiled in the MS Excel sheet. Statistical analysis was carried out using SPSS (Statistical Package for Social Studies) Software version 20.0. The data were evaluated in terms of frequency, percentage, mean \pm standard deviation and odds ratio.

Results

The percentage of male and female adolescents was 50% each. Majority (55.3%) of study subjects belonged to the age group of 14-16 years followed by 10-13 years (24.0) and 17-19 years (20.7%). Mean age of study subjects was 14.90 ± 1.74 years. Mean age of adolescent boys was 15.07 ± 1.750 years; corresponding value for girls was 14.72 ± 1.711 years ($t= 1.786$, $p= 0.078$). Equal number (20.0%) of study subjects belonged to each class (i.e. 8th, 9th, 10th, 11th and 12th). Maximum number (97.3%) of the study subjects were Hindu and rest 2.7% were Muslim. Caste distribution shows that 44.4% belonged to Scheduled caste category; corresponding values for General and OBC categories were 34.3% and 21.3%, respectively. As much as 13.7%, 38.3%, 35.0%,

and 12.3% of respondents belonged to lower, lower middle, middle, and upper middle socio-economic status, respectively. Only 0.7% respondents belonged to upper socio-economic status. Father of 13 (4.3%) and mother of 5 (1.7%) respondents were not alive (Table 1). The overall prevalence of depression among school going adolescent was 21.7%; out of which major depressive disorder was found to be 4.7% and that of other depressive disorders was 17.0%. Two hundred and thirty-five (78.3%) school going adolescents had no depression (Figure 1). On the basis of severity scale 6.7% children had minimal depression, 8.0% had mild depression, 3.3% had moderate depression, 3.7 per cent had moderately severe depression and none had severe depression (Figure 2).

Seventeen (5.7%) school going adolescents reported that they faced somewhat difficulties to do their work, take care of things at home or get along with other people. It was observed that 10.7% of the study subjects felt depressed or sad most days, even if they felt okay sometimes during the past year. Only 1.7% adolescents had serious thought about ending their life in the past month and none of the study subjects ever, in their whole life, tried to kill themselves or made a suicide attempt (Table 2).

It was observed that significantly ($p= 0.009$) more number of adolescents with major depressive disorders (16.5%) plus other depressive disorders (6.1%) had suicidal ideation in the past one month as compared to those labelled with no depression (0.4%). The risk of developing suicidal ideation among those who had major depressive plus other depressive disorders was 19.14 times higher (CI= 2.095-174.8) as compared to those who haven't depression (Table 3).

Table 1: General characteristics of study subjects

Parameters	Number	Percentage
Gender		
Male	150	50.0
Female	150	50.0
Age in years		
10-13 years	72	24.0
14-16 years	166	55.3
17-19 years	62	20.7
Education (Class)		
Being in class 8 th	60	20.0
Being in class 9 th	60	20.0
Being in class 10 th	60	20.0
Being in class 11 th	60	20.0
Being in class 12 th	60	20.0
Religion		
Hindu	292	97.3
Muslim	08	2.7
Caste		
Scheduled caste	133	44.4
Other backward caste	64	21.3
General (Others)	103	34.3
Total	300	100.0

Fig 1:

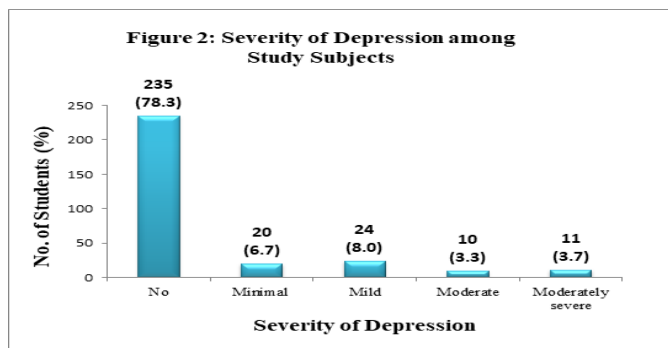
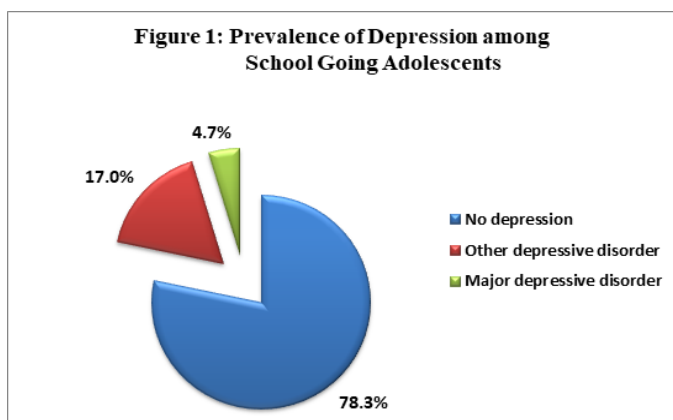


Fig 2:

Table 2: Distribution of study subjects as per their problems & serious thoughts

Variables	Number	Percentage
How difficult to do their work, take care of things at home or get along with other people?`		
Not difficult at all	283	94.3
Somewhat difficult	17	5.7
In the past month, had serious thought about ending their life		
Yes	05	1.7
No	295	98.3
In the past year, felt depressed or sad most days, even if they felt okay sometimes		
Yes	32	10.7
No	268	89.3
Ever, in their whole life, tried to kill themselves or made a suicide attempt		
Yes	00	0.0
No	300	100.0
Total	300	100.0

Table 3: Suicidal ideation among study subjects

Severity of Depression	N	Serious thought about ending life in the past one month		p*	Odds Ratio	95% Confidence Interval
		Present N (%)	Absent N (%)			
Major depressive disorder ^a	06	01 (16.5)	05 (83.3)	0.009	19.14	2.095-174.8
Other depressive	49	03 (6.1)	46 (93.9)			

disorder ^b					
No depression	245	01 (0.4)	244 (99.6)		
Total	300	05 (1.7%)	295 (98.3)		

Note: * Fisher exact test value

** For computation of Odds Ratio a & b have been merged

Discussion

In this study, the overall prevalence of depression among school going adolescents was 21.7% as per Patient Health Questionnaire-9 Modified for Adolescents (PHQ-A). Our findings are consistent with that reported by Mohta et al (20.9%)¹⁰ who conducted a study among 630 adolescents between 10 to 19 years of age residing in the selected area of Ballabgarh (Haryana). Similar findings were well established in other studies by Khan et al (21%),¹¹ and Sserunjogi et al (21%)¹². A little lower prevalence was observed by Oderinde et al (16.3%),¹³ Saluja et al (18%)¹⁴ and Bansal et al (18.4%)¹⁵. However, the prevalence of depressive symptoms reported by Bodur et al (9.9%),¹⁶ Raja et al (10.8%),¹⁷ Chittri et al (11.1%),¹⁸ and Lin et al (12.3%)¹⁹ was very much lower than that mentioned in our study.

Studies conducted by Khan et al (25%),¹¹ Mridha et al (25%),²⁰ Gautam et al (27%)²¹ and Vashisht et al (29.9%)²² observed a little higher prevalence in their observations. On the contrary, Anjum et al (30.1%),²³ Sandal et al (36.1%),²⁴ Tirfeneh et al (36.2%),²⁵ Chauhan et al (37.8%),²⁶ Hans pal et al (39%),²⁷ Shukla et al (39.7%),²⁸ Singh et al (40%)²⁹ and Das et al (43.4%),³⁰ in their investigations found much higher prevalence in comparison to our study. In the same line extremely high prevalence of depression was revealed by Jha et al (49.2%),¹ Malik et al (52.9%),³¹ Sharma et al (55%),³² Tsehay et al (56.75%),³³ Nagendra et al (57.7%),³⁴ Mohan raj et al (60.8%),³⁵ Modarrasi et al (69.6%),³⁶

Ganesh et al (71.5%)³⁷ and Alharbi et al (74%)³⁸. This diversity could be explained by dissimilar sampling techniques, characteristics of the study population and region, the multitude of study instruments used, diagnostic criteria, number of stages for diagnosis (single or multiple), and training status/qualification of interviewers.

In our study, major depressive disorder was found to be 4.7% and that of other depressive disorders was 17.0%. Singh MM et al also used the same single stage diagnostic instrument in school-going adolescents in Chandigarh and reported the prevalence of major depressive disorders and other depressive disorders as 7.6% and 32.5%, respectively.³⁹ Contrary to this, Tsehay M et al in their study, found the prevalence of major depressive disorder as 28% and that of other depressive disorders as 28.75%.³³ Such variation could be because of different baseline variables of study population.

In the present study, on the basis of severity scale 6.7%, 8.0%, 3.3% and 3.7% adolescents had minimal, mild, moderate and moderately severe depression, respectively; whereas, none had severe depression. Using the same tool (PHQ-9) on the same age group (10-19 years), Mohta A et al in Haryana, noted that with rising PHQ-9 scores, corresponding to increase in severity of depression, the number of participants identified with such severity was declining. Thus, mild depression was the most common type, identified in 72.1% (n=88) of the depressed participants, followed by moderate, moderately severe and severe depression in 17.2% (n=21), 9.9% (n=12), and 0.8% (n=1)

participants, respectively. These findings are slightly higher than the findings of the present study.¹⁰

On the other hand our findings regarding severity of depression are slightly higher than that reported by Mridha MK et al, who used Center for Epidemiological Studies Depression Scale (CESD-10) and stated the overall prevalence of no or minimal, mild, moderate, moderately severe and severe depression as 75.5%, 17.9%, 5.4%, 1.1% and 0.1%, respectively.²⁰

Contrary to our study, Islam MS et al conducted a cross-sectional survey among 563 school going adolescents aged 13–18 years at selected schools (secondary and higher secondary) in Dhaka City, Bangladesh. Based on the PHQ-9 scale, results indicated that minimal, mild, moderate, moderately severe and severe depression levels were present in 30.0%, 43.5%, 17.2%, 5.9% and 3.4% adolescents, respectively. The findings indicated that nearly one-third of respondents (26.5%) experienced moderate to severe depression.⁴⁰ In the same line, Alharbi et al reported the prevalence of mild, moderate, moderately severe and severe depression in the study population as 34%, 24.6%, 10.4%, and 5%, respectively.³⁸ In another study, Nabunya P et al used BDI scale and stated that over one third (31.83%) of the participants reported mild symptoms, 29.68% reported moderate symptoms and 16.35% reported severe symptoms. Thus, the prevalence of more severe types of depression in above studies was much higher than reported in our study.⁴¹

Several investigators from developed and developing countries worked on the prevalence of the severity of depression among school going adolescents, vary in their findings and no study result was found consistent with the findings of present study.^{18,22,23,25,42,43}

In our study, only 1.7% adolescents had serious thought about ending their life in the past month and none of the study subjects ever, in their whole life, tried to kill themselves or made a suicide attempt. This rate was lower as compared to previous studies by Sserunjogi et al (3.1 %),¹² Tsehay et al (6.4%)³³ and Jayashree et al (9%).⁴⁴

However, Hans pal et al (17.9%),²⁷ Rudatsikira et al (18.4%),⁴⁵ Khalil et al (20%)⁴⁶ and Nagendra et al (41.7%)³⁴ reported much higher level of suicidal ideation in their studies.

Present study also observed that significantly ($p= 0.009$) more number of adolescents with major depressive disorders (16.5%) plus other depressive disorders (6.1%) had suicidal ideation in the past one month as compared to those labelled with no depression (0.4%). The risk of developing suicidal ideation among those who had depression was 19.14 times higher as compared to those who had no depression (CI= 2.095-174.8). In contrast, Singh MM et al observed significantly greater number of adolescents with major depressive disorders had suicidal ideation (85.4%) in the past two weeks as compared to those labelled with other depressive disorders (40.9%) and no depression (7.1%).³⁹

The severity of depression across all these studies likely varies in relation to a number of factors. First, given that depression represents a spectrum of severity, differences in cut-offs occasioned by different instruments likely will yield differences in prevalence estimates. Second, given strong contextual effects in common mental disorders, rates will also vary across differences in socio-demographic settings, age groups and age-period-cohort strata.

Conclusion

A considerable proportion of school going adolescents had major and other depressive disorders. It was also observed that significantly more number of adolescents with major depressive disorders plus other depressive disorders had suicidal ideation in the past one month as compared to those labelled with no depression. On the basis of severity scale seven percent adolescents had moderate and moderately severe depression. Therefore, it is important to identify the felt needs of the adolescents and the services should be demand driven.

Ethical statement

The study was approved by “Institutional Ethics Committee” of Maharaja Agrasen Medical College, Agroha (Hisar), Haryana.

References

1. Jha KK, Singh SK, Nirala SK, Kumar C, Kumar P, Agrawal N. Prevalence of depression among school-going adolescents in an Urban Area of Bihar, India. *Indian Journal of Psychological Medicine*. 2017 May; 39 (3): 287-92.
2. World Health Organization. Maternal, newborn, child and adolescent health. Adolescents and mental health. [cited 2022 Jan 15]. Available from: http://www.who.int/maternal_child_adolescent/topics/adolescence/mental_health/en/
3. Luby JL. Early childhood depression. *Am J Psychiatry*. 2009; 166:974-9.
4. Centers for Disease Control, Suicide in the United States. [cited 2022 Jan 15]. Available from: <http://www.CDC.gov/ncipc/factsheets/suifacts.htm>.
5. Brooks TL, Harris SK, Thrall JS, Woods ER. Association of adolescent risk behaviors with mental health symptoms in high school students. *J Adolesc Health* 2002; 31:240-6.
6. Pine DS, Cohen P, Gurley D, Brook J, Ma Y. The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders. *Arch Gen Psychiatry* 1998; 55:56-64
7. Directorate of census operations Haryana. District census handbook: Hisar, village and town directory. [cited 2021 Oct 15]. Available from: http://www.censusindia.gov.in/2011census/dchb/DCHB_A/06/0612_PART_A_DCHB_HISAR.pdf
8. Jayanthi P, Thirunavukarasu M. Prevalence of depression among school going adolescents in South India. *International Journal of Pharmaceutical and Clinical Research*. 2015 Jan;7(1): 61:3.
9. Kroenke K, Spitzer RL, Williams JBW. Patient Health Questionnaires (PHQ), 2002. [cited 2020 Sep 19]. Available from: <http://www.dsm5.org/pages/feedback-form.aspx>.
10. Mohta A, Malhotra S, Gupta SK, Mani K, Patra BN, Nongkynrih B. Depression Among Adolescents in a rural area of Haryana, India: A community-based study using Patient Health Questionnaire-9. *Cureus*. 2021 Sep 29;13(9):1-12.
11. Khan A, Ahmed R, Burton NW. Prevalence and correlates of depressive symptoms in secondary school children in Dhaka city, Bangladesh. *Ethnicity & Health*. 2020 Jan 2;25(1):34-46.
12. Gomes FV, Rincon-Cortés M, Grace AA. Adolescence as a period of vulnerability and intervention in schizophrenia: Insights from the MAM model. *Neurosis. Bio behav*. 2016; 70:260–70.
13. Oderinde KO, Dada MU, Ogun OC, Awunor NS, Kundi BM, Ahmed HK et al. Prevalence and predictors of depression among adolescents in Ido Ekiti, south west

Nigeria. International Journal of Clinical Medicine. 2018 Mar 6;9(3):187-202.

14. Saluja G, Lachan R, Scheidt CP, Over peck DM, Sun W, Giedid NJ. Prevalence of and risk factors for depressive symptoms among young adolescents. Arch Pediatr Adolesc Med. 2004; 158:760–5.

15. Bansal V, Goyal S, Srivastava K. Study of prevalence of depression in adolescent students of a public school. Industrial psychiatry journal. 2009 Jan;18(1):43-6.

16. Bodur S, Kücükendirici H. Prevalence of depressive symptoms in Turkish adolescents. Eur J Gen Med. 2009 Jan 1;6(4):204-12.

17. Raja D, Singh H, Chail A, Dangi A. Prevalence of childhood depression in school going adolescents in an urban Indian school. Industrial Psychiatry Journal. 2020 Jan;29(1):88-92.

18. Chettri TG, Adhikari SP, George S. Prevalence and correlates of depressive symptoms in young adolescents of nepal. Clin Neurol Int. 2019;1(1):3-6.

19. Lin HC, Tang TC, Yen JY, Ko CH, Huang CF, Liu SC et al. Depression and its association with self-esteem, family, peer and school factors in a population of 9586 adolescents in southern Taiwan. Psychiatry and Clinical Neurosciences. 2008 Aug;62(4):412-20.

20. Mridha MK, Hossain MM, Khan MS, Hanif AA, Hasan M, Mitra D, et al. 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):1-16.

21. Gautam P, Dahal M, Ghimire H, Chapa gain S, Baral K, Acharya R, et al. Depression among adolescents of rural Nepal: A community-based study. Depression research and treatment. 2021 Feb 4; 2021:1-9.

22. Vashisht A, Gadi NA, Singh J, Puryakastha M, Pathak R, Mishra P. Prevalence of depression & assessment of risk factors among school going adolescents. Indian Journal of Community Health. 2014;26(2):196-9.

23. Anjum A, Hossain S, Hasan MT, Sayma Islam Alin SI, Uddin ME, Sikder MT. Depressive symptom and associated factors among school adolescents of urban, semi-urban and rural areas in Bangladesh: A scenario prior to COVID-19. Frontiers in Psychiatry. 2021 Sep; 12:1-11.

24. Sandal RK, Goel NK, Sharma MK, Bakshi RK, Singh N, Kumar D. Prevalence of depression, anxiety and stress among school going adolescent in Chandigarh. J Family Med Prim Care. 2017 Apr-Jun; 6 (2): 405–410.

25. Tirfeneh E, Srahbzu M. Prevalence of depression and its association with parental neglect among adolescents at governmental high schools of Aksum town, Tigray, Ethiopia, 2019: A cross sectional study. Depress Res Treat [Internet]. 2020 Apr [cited 2022 Jan 15]. Available from: [https:// www. ncbi. nlm. nih. gov/ pmc/ articles/ PMC 7210544/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7210544/)

26. Chauhan S, Lal P, Nayak H. Prevalence of depression among school children aged 15 years and above in a public school in Noida, Uttar Pradesh. J Acad Ind Res. 2014 Nov 3;3(6):269-73.

27. Hans pal I, Krishnaswamy P, Rose M, Mary T, Antony J, Johnson AR. How prevalent is depression among rural school-going adolescents: A cross-sectional study in South Karnataka. Journal of Indian Association for Child and Adolescent Mental Health. 2019 Apr 1;15(2):124-39.

28. Shukla M, Ahmad S, Singh JV, Shukla NK, Shukla R. Factors associated with depression among school-

going adolescent girls in a district of Northern India: A cross-sectional study. Indian Journal of Psychological Medicine. 2019 Jan;41(1):46-53.

29. Singh R. Stress among school-going adolescents in relation to psychological hardness. Journal on Educational Psychology. 2016;9(4):8-15.

30. Das SC, Mallick a PS, Priyadarshini P, Manasa RV. Prevalence of severe depression among adolescents in rural area of Odisha, India. Indian Journal of Community Medicine. 2021 Jul;46(3):438-41.

31. Malik M, Khanna P, Rohilla R, Mehta B, Goyal A. Prevalence of depression among school going adolescents in an urban area of Haryana, India. Int J Community Med Public Health. 2015 Oct; 2:624-6.

32. Sharma V, Srivastava S, Malhotra S, Singh R, Singh TB. Yoga and cognitive behavior techniques for academic stress and mental wellbeing among school students. Delhi Psychiatry Journal. 2010 Apr;13(1):75-8.

33. Tsehay M, Necho M, Mekonnen W. The role of adverse childhood experience on depression symptom, prevalence, and severity among school going adolescents. Depression Research and Treatment. 2020 Mar 18; 2020:1-9.

34. Nagendra K, Sanjay D, Gouli C, Kalappanavar NK, Kumar VCS. Prevalence and association of depression and suicidal tendency among adolescent students. International Journal of Biomedical and Advance Research. 2012;3(9):714-9.

35. Mohan raj R, Subbaiah K. Prevalence of depressive symptoms among urban adolescents of South India. Journal of Indian Association for Child and Adolescent Mental Health. 2010;6(2):33-43.

36. Modarresi F, Nikouee F, Ansari A, Rezaee M. Evaluation of depression and its related factors among

female students in Fasa, Iran. International Clinical Neuroscience Journal. 2017 Oct 1;4(4):130-3.

37. Ganesh M, Sridevi SA. A study on the prevalence of depression and eating disorder among females of fertile age group in Chennai. Int J Develop Res. 2014; 4:2315-8.

38. Alharbi R, Alsuhaibani K, Alma shad A, AL Yahya A: Depression and anxiety among high school student at Qassim region. J Family Med Prim Care. 2019; 8:504-10.

39. Singh MM, Gupta M, Grover S. Prevalence & factors associated with depression among school going adolescents in Chandigarh, north India. The Indian Journal of Medical Research. 2017 Aug;146(2):205-15.

40. Islam MS, Rahman ME, Moonajilin MS, Jim van OS. Prevalence of depression, anxiety and associated factors among school going adolescents in Bangladesh: Findings from a cross-sectional study. 2021 Apr 1;16(4):1-13.

41. Nabunya P, Damulira C, Byansi W, Muwanga J, Bahar OS, Namuwonge F et al. Prevalence and correlates of depressive symptoms among high school adolescent girls in southern Uganda. BMC public health. 2020 Dec; 20 (1):1-11.

42. Moeini B, Bashir an S, Soltanian AR, Ghaleiha A, Taheri M. Prevalence of depression and its associated sociodemographic factors among Iranian female adolescents in secondary schools. BMC Psychology. 2019 Dec;7(1):1-11.

43. Nagendra K, Sanjay D, Gouli C, Kalappanavar NK, Kumar VCS. Prevalence and association of depression and suicidal tendency among adolescent students. International Journal of Biomedical and Advance Research. 2012;3(9):714-9.

44. Jayashree K, Mithra PP, Nair MK, Unnikrishnan B, Pai K. Depression and anxiety disorders among school going adolescents in an urban area of South India. *Indian Journal of Community Medicine*. 2018 Dec;43(Suppl 1): S28-S32.
45. Rudatsikira E, Muula AS, Siziya S. Prevalence and associated factors of suicidal ideation among school-going adolescents in Guyana: Results from a cross sectional study. *Clin Pract Epidemiol Ment Health*. 2007;3(3):13.
46. Khalil AH, Rabie MA, Abd-El-Aziz MF, Abdou TA, El-Rasheed AH, Sabry WA. Clinical characteristics of depression among adolescent females: A cross-sectional study. *Child and Adolescent Psychiatry and Mental Health* 2010; 4:26-28.