Original Article

Stress, anxiety, and depression among adolescent students of public schools in Kathmandu

Sharma P[1], Choulagai BP[2]*

[1]Department of Nursing, Manmohan Memorial Institute of Health Sciences, Kathmandu, Nepal

[2]Department of Community Medicine and Public Health, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

***Corresponding author:** Dr. Bishnu P Choulagai, Associate Professor, Department of Community Medicine and Public Health, Institute of Medicine, Tribhuvan University, NP – 446 00Kathmandu, Nepal. Phone: 9802051015. **Email:** bchoulagai@iom.edu.np

Abstract

Background: Adolescence is a period characterized by changes in emotion, perception, cognition, and judgment which may adversely affect their mental health. This study aimed to find out the prevalence and associated factors of stress, anxiety, and depression among adolescent students of Kathmandu, Nepal.

Methods: We used a descriptive cross-sectional study. The study included 411 adolescent students aged 14 to 19 years from six randomly selected public schools of Kathmandu Metropolitan City. Depression, Anxiety and Stress Scale 21(DASS-21) was administered to the students to identify the prevalence of depression, anxiety, and stress. Logistic regression analysis was performed to find out the associated factors of stress, anxiety, and depression.

Results: The prevalence of stress, anxiety, and depression was 27.5%, 56.9% and 41.6% respectively. Factors associated with stress were being female, high academic pressure, and abuse. The factor associated with anxiety was high academic pressure and factors associated with depression were being female, high academic pressure and witnessed/exposed to domestic violence.

Conclusion: Depression, anxiety, and stress are common among school adolescents. Academic pressure was a major factor of depression, anxiety, and stress. Adolescent girls were more prone to develop stress, and depression compared to adolescent boys.

Keywords: Adolescent; anxiety; DASS-21; depression; stress; Nepal

Introduction

Adolescence is a period from 10 to 19years of age.[1]Early adolescence includes the age between 10 to 14 and late adolescence encompasses the age between 15 to 19 years.[2]Worldwide, an estimated 1.2 billion individuals are adolescents which comprise16 percent of the world's population.[3]In Nepal, adolescents cover 23.62 % of total population.[4]

The prevalence of mental health disorders such as anxiety neurosis, depression, and obsessive-compulsive disorders are common in adolescence. Due to transition from childhood to adulthood, they must learn to cope with the psychological stress of growing up, deal with emotions, resolve conflicts, handle peer pressure, build bridges with friends and family, develop self-confidence, and protect themselves from high pressure marketing strategies like stress of academic competition as well as alcohol marketing.[5]It is estimated that around 20 percent of the world's adolescents have mental health or behavioral problem. About half of lifetime mental disorders begin before age 14, and 70 percent by age 24. Depression is the single largest contributor to the global burden of disease for late adolescents. Worldwide, an estimated 71,000 adolescents commit suicide annually.[6] Youth suicide is only the tip of the iceberg, which masks

the generalized anxiety and depression experienced by students.[7]Depression in adolescence is associated with increased risk of suicidal behavior, homicidal ideation, tobacco use, and substance abuse into adulthood.[8] Academic pressure, academic anxiety and academic stress lead to depression.[9]Psychological disorders among children and adolescents have high prevalence rate however there is limited data on the prevalence of depression, anxiety and stress among school adolescents particularly in developing countries such as Nepal.[10]

Methods

A descriptive cross-sectional study was used to identify stress, anxiety, and depression among adolescents. The data were collected with adolescent students aged 14 – 19 years from 6 public schools in Kathmandu Metropolitan City[11]– Koteshwor Saraswati Secondary School, Janapath Secondary School, Nava Adarsha Secondary School, Nandi Secondary School, Shanti Vidhyagriha Higher Secondary School, and Mahendraboudha Higher Secondary School. The sample size was calculated by taking P = 0.5, confidence interval 95%, precision 7%.[12]Considering a design effect of 2.0, the required sample size was 392. To adjust for possible non-response for the self-administered questionnaire, the sample included an additional 10% of students in the calculated sample size. Altogether 435 students participated in this study. The final sample size was 411 after excluding 24 questionnaires that were filled incomplete.

The questionnaire included Depression, Anxiety and Stress Scale-21 (DASS-21)[13]andsocio-demographic information, academic pressure, assertiveness, abuse, family communication, peer relationship and witnessing domestic violence. We developed a five-point Likert scale for measuring academic pressure and assertiveness. The total score of Likert was 16 (total 4 question, a score ranging from 0-4) for academic pressure and assertiveness. Total score more than median value was considered high-level academic pressure and high-level assertiveness. We developed the five-point Likert scale for identifying family communication which was categorized as good and poor. The total score of this scale was 15 and total score less than the median score was considered good family communication.DASS-21 was used to identify the stress, anxiety, and depression in adolescent students.DASS-21 consists of 21 statements: 7 statements each for identifying the stress, anxiety, and depression. The statements in DASS-21 are categorized in four responses ("never", "sometime", "often" and "almost always", rated 0-3 respectively). The total score for each of stress, anxiety, and depression is 21. Stress subscale includes statements1, 6, 8, 11, 12, 14 and 18; anxiety subscale statements includes 2, 4, 7, 9, 15, 19 and 20; and depression statements includes3, 5, 10, 13, 16, 17 and 21. The score of 7 or above considered as stress in stress subscale; a score of 4 and above considered as anxiety in anxiety subscale and a score of 5 or above considered as depression in depression subscale.

We translated the DASS-21 in the Nepali language with the help of a psychologist and certified English instructor. Wepre-tested the Nepali questionnaire in 45 students in Shivapuri Higher Secondary School, Maharajgunj, Kathmandu. Internal consistency of the tool was assessed by Cronbach's alpha which was found sufficient[14]for each scale (0.91 in stress subscale; 0.79 in anxiety subscale; and 0.83.in depression subscale).

The institutional review board of Tribhuvan University's Institute of Medicine provided ethical approval for this research. After formal written permission from selected schools, verbal informed consent was taken from participants. We took written permission from tool developer, Peter Lovibond via email. We included all students of 9th grade in six randomly selected schools.

Students filled the self-administered questionnaire in their own classrooms. Data were entered in a database created in SPSS. The analysis of association was carried out using bivariate and multivariate logistic regression analyses. The variables which were significant in the bivariate analysis at 85% confidence interval were entered in multivariate analysis.[15]To check collinearity, we calculated the variance inflation factor (VIF) and detected no problem among the independent variables (VIF <2).

Results

This study included 411 adolescent students. More than a quarter (27.5%) of the students had stress whereas 56.9% had anxiety and 41.6% had depression.

Table 1 shows that most of the students (81.5%) were of age between15 to 19 years, with a mean age of 15.4years. Majority of students (59.6%) were female. Nearly 42% of students were Brahmin/Chhetri. Most of the parents (85.9%) were staying together. More than two-fifths of the mothers and fathers had primary education. Around two-fifths (40.9%) mothers were housewives and 29.9% of fathers were engaged in small business.

Table 1: Socio-demographic characteristics of study participants n=411

Characteristics	Frequency	Percentage (%)
Age of students		
Early adolescence (10-14 years)	76	18.5
Late adolescence (15 to 19 years)	335	81.5
Mean age ± SD		(15.4 ±1.0)
Sex of students		
Female	245	59.6
Male	166	40.4
Ethnicity		
Brahmin/Chhetri	172	41.9
Relatively advantaged Janajati	39	9.5
Disadvantaged non-Dalit terai caste group	12	2.9
Disadvantaged Janajati	163	39.7
Dalit	25	6.1
Marital status of student's parents (n=407)		
Staying together	353	86.8
Separated/Divorced	30	7.3
Widowed	24	5.9
Education of the student's mother (404)		
Illiterate	139	34.4
Primary	182	45.0
Secondary	65	16.1
Higher secondary & above	18	4.5
Education of the student's father (386)		
Illiterate	50	13.0
Primary	178	46.1
Secondary	116	30.0
Higher secondary & above	42	10.9
Occupation of the student's mother (404)		
Housewife	168	41.6
Small business	89	22.0
Service	58	14.3
Agriculture	69	17.1
Wage laborer	20	5.0
Occupation of the student's father (386)		
Household work	21	5.4
Small business	123	31.9
Service	113	29.3
Agriculture	64	16.6
Wage laborer	65	16.8

A few students (7.5%)students witnessed the domestic violence; 12.4% of studentsexperienced abuse; 53.5% of students had high academic pressure. Most of the students (91.7%) had good peer relationship. Majority of the students (66.9%) had a low level of assertiveness and 6.3% of students had poor family communication (Table 2).

Table 2: Mental health characteristics of adolescent students n=411

Characteristics	Frequency	Percentage (%)
Witnessed/exposed to domestic violence		
Yes	31	7.5
No	380	92.5
Abuse		
Yes	51	12.4
No	360	87.6
Academic pressure		
High	220	53.5
Low	191	46.5
Peer relationship		
Good	377	91.7
Poor	34	8.3
Levels of assertiveness		
High	136	33.1
Low	275	66.9
Family communication		
Good	385	93.7
Poor	26	6.3

Female students were 1.7 times more likely to have stress in comparison with the male.Students with high academic pressure had two times more chance of having stress than of low academic pressure.The students who were abused had two times more chance of having stress (Table 3).

Table 3: Predictors of stress among adolescent students of Kathmandu

Characteristics	Bivariate OR (CI)	*p*-value	Multivariate OR (CI)	*p*-value
Sex				
Female	1.72 (1.08-2.72)	0.022*	1.79 (1.09- 2.92)	0.022*
Male	1		1	
Marital status of parents				
Staying together	1		1	
Separated/divorced	2.37 (1.11-5.09)	0.026*	0.07 (0.01-2.53)	0.144
Widowed	3.11 (1.35-7.17)	0.008*	0.12 (0.01-5.04)	0.268
Education of mother				
Illiterate	0.51 (0.18-1.41)	0.195	2.67 (0.22- 32.99)	0.445
Primary	0.69 (0.25-1.85)	0.450	4.27 (0.34- 53.03)	0.259
Secondary	0.43 (0.14-1.32)	0.140	2.56 (0.19-33.75)	0.474
Higher secondary & above	1		1	
Occupation of father				
Household work	1		1	
Business	0.96 (0.30-3.08)	0.94	10.27 (0.27-390.50)	0.210
Service	0.41 (0.17-1.00)	0.050*	4.26 (0.12-147.67)	0.423
Agriculture	0.343 (0.138-.852)	0.021*	2.88 (0.08-100.80)	0.559
Wage laborer	0.54 (0.21-1.40)	0.202	4.85 (0.15-155.56)	0.372
Witnessed/exposed to domestic violence				
Yes	1.77(0.83-3.77)	0.140	1.04 (0.43-2.49)	0.931
No	1		1	
Academic pressure				
High	2.15 (1.37-3.39)	0.001*	2.05 (1.26-3.34)	0.004*
Low	1		1	
Abuse				
Yes	2.28 (1.25-4.16)	0.008*	2.08 (1.05-4.10)	0.035*
No	1		1	
Peer relationship				
Good	1		1	
Poor	1.99 (0.97-4.10)	0.061	0.63 (0.29-1.36)	0.235

*1: Reference group, OR: Odds RatioCI: Confidence Interval * p- ≤ 0.05*

Students with high academic pressure had two times more chance to develop anxiety in comparison of students with low academic pressure (Table4).

Table 4: Predictors of anxiety among adolescent students of Kathmandu

Characteristics	Bivariate OR (CI)	*p*-value	Multivariate OR (CI)	*p*-value
Sex				
Female	1.54(1.04-2.30)	0.033*	1.46 (0.97-2.22)	0.073
Male	1		1	
Ethnicity				
Brahmin/Chhetri	1		1	
Relatively advantaged janajati	1.18 (0.59-2.38)	0.645	0.86 (0.36-2.034)	0.727
Disadvantaged non-dalit terai caste group	0.91 (0.28-2.94)	0.876	1.02 (0.36-2.89)	0.967
Disadvantaged Janajati	1.56 (1.01-2.42)	0.045*	1.09 (0.26-4.53)	0.911
Dalit	0.99 (0.43-2.29)	0.976	1.34 (0.56-3.21)	0.507
Abuse				
Yes	1.96 (1.04-3.71)	0.038*	1.75 (0.90-3.42)	0.102
No	1		1	
Academic pressure				
High	2.31 (1.55-3.44)	<0.001*	2.09 (1.38-3.16)	<0.001*
Low	1		1	
Peer relationship				
Good	1		1	
Poor	2.23 (1.02-4.91)	0.046*	0.50 (0.22-1.14)	0.099
Level of assertiveness				
High	1		1	
Low	1.59 (1.05-2.41)	0.028*	0.77 (0.50-1.19)	0.232

*1: Reference group, OR: Odds RatioCI: Confidence Interval * p- ≤ 0.05*

Female students were 1.6 times more likely to be depressed in comparison with male students. Students who were exposed to domestic violence had three times more chance of developing depression in comparison with not exposed. Students who had high academic pressure had 1.6 times greater chance of developing depression when compared with low academic pressure (Table 5).

Table 5: Predictors of depression among adolescent students of Kathmandu

Characteristics	Bivariate OR (CI)	*p*-value	Multivariate OR (CI)	*p*-value
Sex of students				
Female	1.59 (1.06-2.39)	0.024*	1.59 (1.03-2.45)	0.035*
Male	1		1	
Marital status of Parents				
Staying together	1		1	
Separated/divorced	2.39 (1.12-5.12)	0.025*	1.86 (0.18-19.08)	0.600
Widowed	3.19 (1.33-7.66)	0.009*	2.92 (0.25-33.90)	0.391
Witnessed/exposed to domestic violence				
Yes	4.51 (1.96-10.34)	<0.001*	3.08 (1.26-7.54)	0.014*
No	1		1	
Academic pressure				
High	1.80 (1.21-2.69)	0.004*	1.63 (1.07-2.50)	0.025*
Low	1		1	
Abuse				
Yes	2.44 (1.34-4.44)	0.004*	1.75 (0.91-3.34)	0.093
No	1		1	
Level of assertiveness				
High assertiveness	1		1	
Low assertiveness	1.71 (1.11-2.63)	0.014*	0.70 (0.45-1.10)	0.124
Peer relationship				
Good	1		1	
Poor	1.86 (0.92-3.80)	0.08	0.64 (0.30-1.36)	0.249

*1: Reference group, OR: Odds RatioCI: Confidence Interval * p- ≤ 0.05*

Discussion

The objectives of our study were to identify the prevalence and associated factors of stress, anxiety, and depression among adolescent students. Among 411 students, mean age was 15.4 years. Majority of (59.6%)studentswere female. More than two fifth students were Brahmin/Chhetri and 86.8% of student's parents were staying together.

Prevalence and associated factors of stress

We found 27.5% prevalence rate of stress. This finding is comparable to a similar study in Shangli district of Maharastra, India, in which30.2% of adolescent students had stress.[16]

Our study showed that the female students had 1.7 times higher odds in having stress in comparison with male students. This finding is supported by a study conducted in Turkey that the females were more likely to have stress in comparison with male.[17]

In our study, the adolescent students who had high academic pressure had two times more chance of having stress than of low academic pressure. This finding is supported by a study conducted in Shangli district of Maharastra India, which found the significant association of stress with perceived academic pressure/stress.[16]

Our study revealed that the students who were abused had two times higher odds than students who were not abused.Margolin and Vickerman concluded that child and adolescent abuse is ever more recognized as a probable precursor to post-traumatic stress disorder in adolescents. [18]

Prevalence and associated factors of anxiety

We found a 56.9% prevalence rate of anxiety in our study. Which is in line with others similar studies conducted in different countries like 56.8% prevalence rate of anxiety in Kerala,[19]40.6% prevalence of anxiety in Baghdad,[20]66.2% prevalence of anxiety in Abha, Saudi Arabia in girls,[21] 48.9% in Abha, Saudi Arabia in boys.[22].

In our study, the respondents who had high academic pressure were two times more likely to have anxiety when compared with the students who had low academic pressure. This finding is supported by a study conducted in the Can Tho City of Vietnam which found that the students who had high educational stress were three times more likely to have anxiety in comparison with low educational stress.[23]Likewise, a study conducted in South Africa concluded that academic pressure was a leading cause of anxiety among secondary level adolescent students.[9]

Prevalence and associated factors of depression

In our study, the prevalence of depression was 41.6% among adolescent students. This finding is in line with other previous studies in other countries like 41.5% prevalence of depression among secondary school girls (aged 14 to 19) in Saudi Arabia,[21]41.1% prevalence of depression in secondary school students in Vietnam.[23] A meta-analysis of 53 research articles of Iran showed that the prevalence of childhood and adolescent depression was 43.6%.[24]

Our study showed that thefemale students had 1.5 times higher odds of having depression compared to male students.This finding is comparable to the study findings in Vietnam,[23]Turkey,[17], and India.[25]

Our study showed that the respondents who had witnessed the domestic violence had three times higher odds compared to those of not witnessed domestic violence. Similarly, a study conducted in four districts of Uganda which showed that the adolescents who witnessed/exposed to domestic violence were 1.9 times more likely to have depression in comparison with those not exposed/witnessed to domestic violence.[26] This finding is also consistent to the study among Filipino.[27]

Our study showed that the respondents who had high academic pressure had 1.6 times more likely to have depression when compared with those of low academic pressure. This finding is consistent with the study conducted in Can Tho City of Vietnam.[23]

Our study showed, depression was not associated with mother's education level and a similar result was found in a study conducted in India.[28]In our study father's education level and occupation of both parents were not found to be associated with adolescent depression. Similar result was found in a study conducted in India in which father's education level and occupation of both parents had no relationship with children's depression rates.[29] Contrary to this finding, a study from Sweden found that having unemployed parents had two times higher risk of depressive symptoms and adolescents with lowest parents educational level were at increased risk of depressive symptoms compared to those with highly educated parents.[30] Variation in findings may due to the setting of the study, sample size and methodological differences.

Conclusion

Our study finding provides baseline information on the prevalence of stress, anxiety, and depression among adolescent students of public schools of Kathmandu district. Factors responsible for stress, anxiety, and depression are high academic pressure, witnessing domestic violence and abuse. Being female was significantly associated with adolescent stress and depression.

Findings of this study might help to initiate further large scale study by representing private and public schools adolescent students of Nepal. The finding of this study may also help to draw the attention of local government, NGOs and INGOs to focus on strategy to reduce the academic pressure, abuse and witnessing domestic violence.

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Author information: [1]Sharma P: Poojan Sharma, MN, Lecturer, Manmohan Memorial Institute of Health Sciences, Kathmandu. [2]Choulagai BP: Bishnu Prasad Choulagai, MPH, PhD, Associate Professor, Department of Community Medicine and Public Health, Institute of Medicine.

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References

1. World Health Organization [WHO]. Adolescent health: A state of well-being. Geneva, Switzerland: World Health Organization. 2018. Available from http://www.who.int/topics/adolescent_health/en/(Accessed 19 August 2018).
2. United Nations Children's Fund[UNICEF]. The state of the world's children 2011: Adolescence an age of opportunity. New York, NY 10017, USA: United Nations Children's Fund. 2013. Available from https://data.unicef.org/wp-content/uploads/2015/12/SOWC_2011_83.pdf (Accessed20 August 2018)
3. United Nations Children's Fund [UNICEF]. Adolescents overview**.** New York: United Nations Children's Fund. 2018. Available from https://data.unicef.org/topic/adolescents/overview/#(Accessed 20 August 2018).
4. Ministry of Population and Environment [MoPE]. National Population Report 2017 Nepal.Singha Durbar, Kathmandu: Ministry of Population and Environment. 2017. Available fromhttp://www.mope.gov.np/downloadfile/National%20Population%20Report%202017_1515491881.pdf (Accessed 14 August 2018).
5. World Health Organization[WHO]. Child and Adolescent Health and Development: Adolescent Mental Health. Regional Office for South-East-Asia: World Health Organization. 2018. Available from http://www.searo.who.int/entity/child_adolescent/topics/adolescent_health/adolescent_mental_health/en/(Accessed on 21 August2018).
6. United Nations Children's Fund [UNICEF]. Adolescent Mental Health: An Urgent Challenge for Investigation and Investment. New York, NY 10017, USA: United Nations Children's Fund. 2011. Available from www.unicef.org/sowc2011/pdfs/Adolescent-mental-health.pdf.
7. Kumar V, Talwar R. Determinants of Psychological Stress and Suicidal Behavior in Indian Adolescents: A Literature Review. Journal of Indian Association of Child Adolescent Mental Health. 2014; 10(1):47-68.
8. Kaur S, Sharma V. Depression among Adolescents in Relation to their Academic Stress. Indian Journal of Applied Research. 2014;4(5):183-185.
9. Costa D LC, Mash B. A description of the psychosocial factors associated with depression and anxiety in South African adolescents attending urban private practices in Johannesburg, Division of Family Medicine and Primary Care. Stellenbosch University South African Family Practice. 2008.
10. Rimal HS, Pokharel A. Assessment of mental health problems of school children aged 11-17 years using self-report strength and difficulty questionnaire (SDQ). Journal of Nepal Paediatric Society. 2013;33(3): 172.
11. Kathmandu District Office. Shaikshik Manjari.Dillibazar, Kathmandu: District Education Office of Kathmandu. 2070 B.S: 34-84.
12. Lwanga S.K, Lemeshow S. Sample size determination in health studies: A Practical Manual. Geneva, World Health Organization. 1991. Available from http://whqlibdoc.who.int/publications/9241544058_%28p1-p22%29.pdf.
13. Lovibond, S.H, Lovibond, P.F. Manual for the depression anxiety stress scales. 2nded. Sydney, Australia. 1995. Available from https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf.
14. Tavakol M, Dennick R. Making sense of Cronbach's alpha. International Journal of Medical Education. 2011; 2:53-55.
15. Bursac Z, Gauss C H, Williams D K, Hosmer D W. Purposeful selection of variables in logistic regression. Source Code for Biology and Medicine. 2008; 3:17.
16. Waghachavare V, Chavan V, Dhumale G, Gore A. A cross-sectional study of stress among junior college students in a rural area of Sangli district of Maharashtra. Innovative Journal of Medical and Health Science. 2013;3(6):294-297.
17. Bilge N, Bayram N. The Epidemiology of depression, anxiety, stress and anger in Turkish high school students. British Journal of Education, Society & Behavioural Science.2014;4(9):1153-1170.
18. Margolin G, Vickerman KA. Post-traumatic stress in children and adolescents exposed to family violence: I. overview and issues. PubMed Central. 2010;38 (6): 613–619.
19. Raakhee AS, Aparna N. A study on the prevalence of anxiety disorders among higher secondary students.

GESJ: Education Science and Psychology. 2011; 1(18):33-37.

20. Abbudi Al S. Prevalence of symptoms of depression, anxiety, and stress among secondary school students in Baghdad, Iraq. International Journal of Current Research. 2018; 10(03):66257-66261.
21. Gelban Al KS, AmriAl HS, Mostafa Al O. Prevalence of depression, anxiety and stress as measured by the depression, anxiety, and stress scale (DASS-42) among secondary school girls in Abha, Saudi Arabia. Sultan Qaboos University Medical Journal. 2009; 9(2):140–147. PMID: 21509290.
22. Gelban Al KS. Depression, anxiety, and stress among Saudi adolescent schoolboys. The Journal of the Royal Society for the Promotion of Health. 2007;127(1):33-37.
23. Nguyen DT, Dedding C, Pham TT, Wright P, Bunders J. Depression, anxiety, and suicidal ideation among Vietnamese secondary school students and proposed solutions: a cross-sectional study. BMC Public Health. 2013;13(1): 1.
24. Sajjadi H, Hossein S, Kamal M, Rafiey H, Vameghi M, Forouzan AS, Rezaei M. A systematic review of the prevalence and risk factors of depression among Iranian adolescents. Global Journal of Health Science. 2013; 5(3): 16-27.
25. Sharma V. Prevalence of depression among adolescents: A comparative analysis. Paripex-Indian Journal of Research.2014;3(6):53-55.
26. Kinyanda E, Kizza R, Abbo C, Ndyanabangi S, Levin J.Prevalence and risk factors of depression in childhood and adolescence as seen in 4 districts of north-eastern Uganda. BMC International Health and Human Rights. 2013; 13(1): 1.
27. Hindin MJ, Gultiano S.Associations between witnessing parental domestic violence and experiencing depressive symptoms in Filipino adolescents. American Journal of Public Health. 2006;96(4):660–663.
28. Bhasin S K, Sharma R, Saini N K. Depression, anxiety and stress among adolescent students belonging to affluent families: A school-based study. Indian Journal of Pediatric. 2010. 77(2): 161-165.
29. Nagendra K, Sanjay D, Gouli C, Kalappanavar NK, Vinodkumar CS. Prevalence and association of depression and the suicidal tendency among adolescent students. International Journal of Biomedical and Advance Research.2012; 3(9).
30. Wirback T, MöllerJ, Larsson JO, Galanti MR, Engström K. Social factors in childhood and risk of depressive symptoms among adolescents: a longitudinal study in Stockholm, Sweden. International Journal for Equity in Health.2014;13(1).