

Stress Anxiety and Depression among Adolescents of Schools in Godawari Municipality, Lalitpur

Ghimire R,¹ Adhikari Mishra T,² Sharma P²

¹Nursing Officer,
Bajrabarahi Chapagaun Hospital,
Godawari, Lalitpur.

²Department of Child Health Nursing,
Tribhuvan University, Institute of Medicine,
Maharajgunj Nursing Campus,
Kathmandu, Nepal.

Corresponding Author

Tulashi Adhikari Mishra
Head of Department, Child Health Nursing,
Tribhuvan University, Institute of Medicine,
Maharajgunj Nursing Campus,
Kathmandu, Nepal.
E-mail: tulsikadhikari@gmail.com

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ABSTRACT

Background

Adolescence is a critical phase of life marked by various physical, emotional, and intellectual changes. Emotional aspects of adolescents are often undetected, unaddressed, and untreated.

Objective

To find out the level and factors associated with stress, anxiety, and depression among adolescent students.

Method

A descriptive cross-sectional study among 513 adolescents from grades 9 and 10 in the Public Secondary Schools of Godawari Municipality was carried out using cluster sampling techniques. The participants were administered a validated Nepali version of the Depression, Anxiety, and Stress Scale 21. Descriptive statistics was used to assess the level of stress, anxiety, and depression, while binary logistic regression was used to identify predictors of these conditions among adolescent students.

Result

Findings revealed that mild level of stress (10.1%), moderate level of anxiety (21.2%) and mild level of depression (19.5%) were more prevalent among adolescent students. In a multivariate model, it was found that female adolescents were more likely to have symptoms of stress, anxiety, and depression. Similarly, witnessing domestic violence and experiencing abuse ever were significantly associated with stress; family health problems and witnessing domestic violence were significantly associated with anxiety and passed in previous examination, family history of mental illness, experiencing abuse ever and bedtime use of electronic devices were significantly associated with depression in adolescent students.

Conclusion

The severity of stress, anxiety and depression are increasing among adolescent students. Hence routine mental health screening, adolescent mental health awareness programs and counselling sessions should be conducted in schools.

KEY WORDS

Adolescents, Anxiety, Depression, Stress

INTRODUCTION

Adolescence is a crucial period for laying the foundations of good health.¹ There are 1.3 billion adolescents in the world which comprises 16% of the world population.² The global onset of the mental disorder occurs before 14 years of age.³ Depression, anxiety and stress are highly correlated to each other and occur in combination.⁴ The global prevalence of anxiety and depression in adolescents is 25% to 31%.⁵

About, 40% of the population is younger than 18 years of age in Nepal.⁶ The prevalence of childhood mental health disorders in Nepal is 11.2%.⁷ Study conducted in higher secondary level students in Kathmandu revealed that mild, moderate, severe, and extremely severe level of stress was present in 18.5%, 25.8%, 8.6% and 3.5% of adolescents respectively; mild, moderate, severe, and extremely severe level of anxiety was present in 8.6%, 24.5%, 9.5% and 13.0% of adolescents respectively and mild, moderate, severe and extremely severe level of depression was present in 14.8%, 11.7%, 5.3% and 1.1% of adolescents respectively.⁸ Mental disorders can lead to poor academic performance, lack of communication with friends and family members, substance abuse, feelings of abandonment and suicidal tendencies.⁹

It is very important to address mental health throughout the lifespan, but special importance should be given to the adolescence period, as it is the foundation for long-term health and well-being.¹⁰ Early detection of mental health problems in adolescents can prevent death and avoid sufferings throughout life. Thus, researchers were interested in identifying the level and factors associated with stress, anxiety, and depression in adolescents.

METHODS

A descriptive cross-sectional research design was used to find out the level of stress, anxiety, and depression among adolescents in schools in Godawari Municipality, Lalitpur. Godawari Municipality is in the Lalitpur district of Bagmati province and has 14 wards. There were 17 public secondary schools in Godawari Municipality among them six public secondary schools Banibilas Ma.Bi., Bajrabarahi Ma.Bi., Bisankhunarayan Ma.Bi., Buddha Ma.Bi., Phulchowki Ma.Bi. and Saraswoti Ma.Bi were selected. Students of grades 9 and 10 of those selected public secondary schools were the study population. Adolescents whose guardians gave consent to participate in the study, adolescents who gave assent to participate, and adolescents who were present at the time of data collection were included in the study. The data collection was done for a period of one month from August 07, 2023, to September 08, 2023. The sample size was calculated by taking the prevalence of stress i.e., 27.49%, keeping 95% confidence interval with 5% allowable error.¹¹ A cluster sampling technique was used, the sample size was 513.

Before data collection, ethical approval of the research proposal was obtained from the Institutional Review Committee of the Institute of Medicine, Tribhuvan University. The objectives and process of the study was explained to the adolescent. Written informed consent was obtained from the parents of the adolescent and written assent was taken from the adolescent themselves before data collection. Participation of the adolescents in the study was voluntary and confidentiality of the adolescents was maintained by asking adolescents not to write their names in the questionnaire, keeping code numbers, not disclosing their identification, and using it only for study purposes. Adolescents were pre-informed that they could withdraw from a study at any time without giving a reason and without fear.

All the collected data was checked and verified daily for completeness, consistency, and accuracy. The obtained data was edited, organized, coded, and entered into a statistical package for social sciences (SPSS version 16). Descriptive and inferential statistics were used to analyse and interpret the findings. For descriptive statistics frequency and percentage were calculated for categorical variables while median and quartiles were calculated for continuous variables. For inferential statistics, bivariate analysis (Chisquare and Crude Odds Ratio) was done to find the association between dependent and independent variables. The significant variables after bivariate analysis were taken for binary logistic regression (multivariate analysis). Before doing binary logistic regression, multicollinearity was tested for each model of stress, anxiety and depression differently where no multicollinearity was found as the Variance Inflation Factor (VIF) was less than two for all. Also, the Hosmer-Lemeshow test was done to ensure model fitness, and the model was found to be a good fit as the p-value was more than 0.05 which was statistically significant. Similarly, Nagelkerke R square values were greater than 0.05 for stress (0.101), anxiety (0.108), and depression (0.110) which also ensures the higher fitness of the predictive mode.

RESULTS

More than half of the adolescents (55.4%) were less than or equal to 15 years. More than half of the adolescents (56.3%) were female. More than half of the adolescents (57.5%) were Janajati. Two-thirds of the adolescents (66.5%) were Hindu. The majority of the adolescents (71.9%) were living in a nuclear family. Most of the adolescents (87.3%) were living with their parents. More than half of the adolescents (57.5%) were studying in grade nine. Almost all adolescents (99.2%) were passed in the previous exam. Most of the adolescents' parents (85.8%) were staying together. Regarding the educational status of adolescents' parents, 29.8% of the adolescents' fathers had basic level education while 30.2% of adolescents' mothers

were unable to read and write. Regarding the occupation of adolescents' parents, one-fourth of the adolescents' fathers (25.5%) were engaged in agriculture while nearly half i.e., 49.9% of the adolescents' mothers were home managers, 13.6% of the adolescents had a family history of mental illness, 30.2% had family health problem, 12.9% had witnessed domestic violence in their family, 11.3% were abused, 7% were bullied on school premises during last 12 months and 8% were bullied electronically during last 12 months. Almost all adolescents (96.1%) adolescents were using some form of electronic devices like computer/laptop/mobile phones/videogames/television. About one third of the adolescents were using screen time for 2-3 hours per day. Nearly half i.e., 48.9% of the adolescents were using screen time at bedtime.

Table 1. Level of Stress Anxiety and Depression among the Adolescents. (n=513)

Level	Stress	Anxiety	Depression
	No. (%)	No. (%)	No. (%)
Normal	367(71.5)	265(51.7)	255(49.7)
Mild	58(11.3)	49(9.6)	100(19.5)
Moderate	52(10.1)	109(21.2)	94(18.3)
Severe	31(6.1)	47(9.2)	42(8.2)
Extremely severe	5(1.0)	43(8.3)	22(4.3)

There was no significant association between stress and age, ethnicity, religion, type of family, current living status, grade, result in previous exam, marital status of parents, use of electronic device, duration of screen time.

There was no significant association between anxiety and age, ethnicity, religion, type of family, current living status, grade, result in previous exam, marital status of parents, family history of mental illness, experience of abuse, perceived bullying on school premises, perceived bullying electronically, use of electronic device, duration of screen time and timing of using electronic device.

There was no significant association between depression and age, ethnicity, religion, type of family, current living status, grade, family health problem, perceived bullying on school premises, perceived bullying electronically, use of electronic device, duration of screen time.

DISCUSSION

The current study showed that symptoms of mild stress (11.3%), moderate level of anxiety (21.2%) and mild depression (19.5%) was more prevalent among adolescent students which is consistent with the study done by Karki 8 among school adolescents of Kathmandu where symptoms of mild stress was most prevalent among the students i.e. 14.8%, about a quarter of students had moderate level of anxiety i.e. 24.5% and 18.5% students had symptoms of depression.

Table 2. Association between Level of Stress and selected variables of the Adolescents. (n=513)

Variables	Stress N(%)	No Stress N(%)	COR (95% CI)	Chi Square	p value
Sex					
Female	95(32.9)	194(67.1)	1.661(1.117-2.471)	6.328	0.012*
Male	51(22.8)	173(77.2)	1		
Family history of mental illness					
Yes	27(38.6)	43(61.4)	1.710(1.011-2.890)	4.071	0.044*
No	119(26.9)	324(73.1)	1		
Family health problem					
Yes	58(37.4)	97(62.6)	1.835(1.224-2.750)	8.757	0.003*
No	88(24.6)	270(75.4)	1		
Witnessing domestic violence					
Yes	30(45.5)	36(54.5)	2.378(1.402-4.034)	10.745	0.001*
No	116(28.5)	331(74.0)	1		
Experienced abuse ever					
Yes	30(51.7)	28(48.3)	3.131(1.795-5.462)	17.383	0.000*
No	116(25.5)	339(74.5)	1		
Perceived bullying on school premises					
Yes	17(47.2)	19(52.8)	2.414(1.217-4.787)	6.694	0.010*
No	129(27.0)	348(73.0)	1		
Perceived bullying electronically (n=493)					
Yes	20(48.8)	21(51.2)	2.605(1.364-4.975)	8.918	0.003*
No	121(26.8)	331(73.2)	1		

1: Reference group; COR: Crude Odds Ratio; CI: Confidence Interval; *p-value significant at ≤ 0.05

Table 3. Association between Level of Anxiety and selected variables of the Adolescents. (n=513)

Variables	Anxiety	No Anxiety	COR (95% CI)	Chi Square	p value
Sex					
Female	168 (58.1)	121 (41.9)	2.500 (1.745-3.584)	25.394	0.000*
Male	80 (35.7)	144 (64.3)	1		
Family health problem					
Yes	95 (61.3)	60 (38.7)	2.121 (1.443-3.118)	14.909	0.000*
No	153 (42.7)	205 (57.3)	1		
Witnessing domestic violence					
Yes	40 (60.6)	26 (39.4)	1.768 (1.043-2.996)	4.561	0.033*
No	208(46.5)	239(53.5)	1		

1: Reference group; COR: Crude Odds Ratio; CI: Confidence Interval; *p-value significant at ≤0.05

Table 4. Association between Level of Depression and selected variables of the Adolescents. (n=513)

Variables	Depression	No Depression	COR (95% CI)	Chi-square	p value
Sex					
Female	164 (56.7)	125 (43.3)	1.814 (1.275-2.583)	11.032	0.001*
Male	94 (42.0)	130 (58.0)	1		
Result in previous exam					
Pass	244 (51.6)	229 (48.4)	1.981 (1.008-3.891)	4.058	0.044*
Fail	14(35.0)	26 (65.0)	1		
Marital status of parents					
Not staying together	47 (64.4)	26 (35.6)	1.960 (1.173-3.279)	6.760	0.009*
Staying together	211 (48.0)	229 (52.0)	1		
Family history of mental illness					
Yes	47 (67.1)	23 (32.9)	2.247 (1.319-3.827)	9.207	0.002*
No	211 (47.6)	232 (52.4)	1		
Witnessing domestic violence					
Yes	43 (65.2)	23 (34.8)	2.017 (1.177-3.459)	6.690	0.010*
No	215 (48.1)	232 (51.9)	1		
Experienced abuse ever					
Yes	42 (72.4)	16 (27.6)	2.905 (1.587-5.316)	12.801	0.000*
No	216(47.5)	239 (52.5)	1		
Major time of using screen time (n=493)					
Bedtime	148 (59.0)	103 (41.0)	1.939 (1.358-2.774)	13.263	0.000*
Other time	103 (42.6)	139 (57.4)	1		

1: Reference group; COR: Crude Odds Ratio; CI: Confidence Interval; *p-value significant at ≤ .05

The current study depicted that sex of the adolescent was significantly associated with stress, anxiety and depression. In this study it was found that female adolescents were more likely to have symptoms of stress (AOR=1.841, 95% CI: 1.207-2.808), anxiety (AOR=2.525, 95%CI: 1.749-3.646) and depression (AOR= 1.855, 95% CI: (1.269-2.713) in comparison to male adolescents. This finding is supported by a study conducted among high school adolescents in urban municipality of Kathmandu where female adolescents were more likely to suffer from stress and anxiety than male adolescents.⁸ Also, another study done in public schools of Kathmandu revealed similar finding where female adolescents were more likely to have stress

Table 5. Predictors of Stress in the Adolescents. (n=513)

Variables	Unadjusted OR	p-value	Adjusted OR	p-value
Sex				
Female	1.661 (1.117-2.471)	0.012*	1.841 (1.207-2.808)	0.005*
Male	1		1	
Family history of mental illness				
Yes	1.710 (1.011-2.890)	0.045*	1.130 (0.624-2.155)	0.687
No	1		1	
Family health problem				
Yes	1.835 (1.224-2.750)	0.003*	1.388 (0.894-2.155)	0.144
No	1		1	
Witnessing domestic violence				
Yes	2.378 (1.402-4.034)	0.001*	1.937 (1.093-3.432)	0.024*
No	1		1	
Experienced abuse ever				
Yes	3.131 (1.795-5.462)	0.000*	2.076 (1.057-4.074)	0.034*
No	1		1	
Perceived bullying on school premises				
Yes	2.414 (1.217-4.787)	0.012*	1.123 (0.483-2.608)	0.788
No	1		1	
Perceived bullying electronically (n=493)				
Yes	2.615 (1.372-4.987)	0.004*	1.957 (0.970-3.949)	0.061
No	1		1	

1: Reference group; OR: Odds Ratio; CI: Confidence Interval; *p-value significant at ≤ 0.05

Table 6. Predictors of Anxiety in the Adolescents. (n=513)

Variables	Unadjusted OR	p-value	Adjusted OR	p-value
Sex				
Female	2.4999 (1.744-3.581)	0.000*	2.525 (1.749-3.646)	0.000*
Male	1		1	
Family health problem				
Yes	2.121 (1.443-3.118)	0.000*	1.997 (1.342-2.972)	0.001*
No	1		1	
Witnessing domestic violence				
Yes	1.768 (1.043-2.996)	0.034*	1.754 (1.008-3.052)	0.047*
No	1		1	

1: Reference group; OR: Odds Ratio; CI: Confidence Interval; *p-value significant at ≤ 0.05

and depression than male adolescents.¹¹ However, different finding than this study was found in school adolescents of Dang which showed males were 1.5 times more likely to

Table 7. Predictors of Depression in the Adolescents. (n=513)

Variables	Unadjusted OR	p-value	Adjusted OR	p-value
Sex				
Female	1.814(1.275-2.582)	.001*	1.855(1.269-2.713)	.001*
Male	1		1	
Result in previous exam				
Pass	1.981(1.008-3.891)	0.047*	2.604(1.233-5.494)	0.012*
Fail	1		1	
Marital status of parents				
Not Staying together	1.960(1.173-3.279)	0.009*	1.418(0.803-2.500)	0.229
Staying together	1		1	
Family history of mental illness				
Yes	2.247(1.319-3.827)	0.003*	2.045(1.130-3.701)	0.018*
No	1		1	
Witnessing domestic violence				
Yes	2.017(1.177-3.459)	0.011*	1.405(0.777-2.539)	0.260
No	1		1	
Experienced abuse ever				
Yes	2.905(1.587-5.316)	0.001*	2.690(1.380-5.241)	0.004*
No	1		1	
Major time of using screen time				
Bedtime	1.939(1.358-2.774)	0.000*	1.941(1.326-2.840)	0.001*
Other time	1		1	

1: Reference group; OR: Odds Ratio; CI: Confidence Interval; *p-value significant at ≤ 0.05

have anxiety than females.¹² A Journal of Psychiatry and Neuroscience mentioned that hormonal fluctuation that occurs in adolescent girls during puberty and prior to menstruation makes them more sensitive to depression and anxiety.¹³ Apart from this adolescents' girls are more vulnerable to physical and sexual abuse, family violence and gender discrimination which may also contribute to development of mental illness in them.

In this study, it was found that adolescents who were passed in previous exam (AOR= 2.604, 95% CI: (1.233-5.494) were 2.6 times more likely to have depression than adolescents who failed the examination. However a community based study conducted in adolescents of rural Nepal found a different result than this study where students who failed their previous exam were more likely to be at risk of depression.¹⁴ A possible explanation for this could be students who pass their examinations have more expectation from their parents to do better in next examination which increases the risk of being depressed. Similarly these students are from higher grades of schools

i.e. grade 9 and 10 after which they have to choose a particular career. Thus they may have future career concern which may increase depressive symptoms.

The current study found that witnessing domestic violence was associated with stress (AOR= 1.937, 95% CI: 1.093-3.432) and anxiety (AOR= 1.754, 95% CI: 1.008-3.052). This finding is consistent with a study done in Spanish adolescents which showed that exposure to violence at home (witnessing violence against the mother and/or direct victimization by the parents) predicted an increase in anxious and depressive symptoms in adolescents.¹⁵ Similar study conducted in South Africa also supported this finding which found significant association between exposure to family violence and higher proportion of depression (OR= 6.23, 95% CI: 4.2-9.2), anxiety (OR= 5.40, 95% CI: 2.4- 12.4) and post-traumatic stress disorders (OR= 8.93, 95% CI= 1.2- 25.9) in adolescents.¹⁶ This finding is also supported by a 2 years longitudinal study conducted in school going adolescents which showed that witnessing domestic violence was positively associated with anxiety.¹⁷ A possible explanation for this could be children who persistently witness domestic violence may develop conflicting feelings about their parents, may become secretive about their families and try to avoid interaction with friends, and isolate themselves from others which may cause loneliness, stress, and anxiety in them.

The current study revealed that adolescents who were abused were 2 times more likely to have stress (AOR= 2.076, 95% CI: 1.057-4.074) and 2.6 times more likely to have depression (AOR= 2.690, 95% CI: 1.380-5.241). This finding is supported by a study done in public schools of Kathmandu which found that adolescents who were abused had 2 times higher odds of having stress than adolescents who were not abused.¹¹ Similarly, a systemic review and meta-analysis of 604 studies conducted in Australia also supports this finding where several form of child maltreatment were associated with depression (OR= 2.48, CI=2.14-2.87) and significant association was found between child maltreatment and posttraumatic stress disorder.¹⁸ A possible explanation for this could be adolescents who experience any form of abuse may have emotional trauma and also post-traumatic stress disorder due to recurrent flashbacks of traumatic events.

In this study it was found that family health problem (chronic illness in family members) was significantly associated with anxiety (AOR=1.997, 95% CI= 1.342-2.972). This finding is consistent with a study done among college going adolescents which depicted that staying with parents with chronic health conditions was positively correlated with anxiety and depression in adolescents.¹⁹ An explanation for this could be children who have chronic illness in family members may have more responsibility and they may have an economic crisis as well as difficulty fulfilling basic needs which may lead to stress and anxiety.

Current study showed that adolescents having a family history of mental illness (AOR= 2.690, 95% CI: 1.380-5.241) were 2.6 times more likely to have depression than those who had no family history of depression. This finding is in line with an adolescent brain cognitive study (retrospective study) in America which demonstrated that a family history of psychiatric disorder is associated with depression i.e. the prevalence of depressive disorder in children having family history of psychiatric illness was 4.8% and the adolescents with two or three generations with such history were at more risk than one or none.²⁰

The current study depicted that bedtime use of screen time/electronic device was significantly associated with depression in adolescents (AOR= 1.935, 95% CI= 1.316-2.844). This finding is supported by a study done among female adolescents in Saudi Arabia where bedtime use of electronic device device was significantly associated with depression in female adolescents.²¹ A possible explanation for this could be bedtime use of screen time may cause problem falling asleep and problems staying asleep in adolescents which decreases the sleep quality resulting in poor concentration and poor mental health like depression.

CONCLUSION

From the study, it is found that mild level of stress, mild level of depression, and moderate level of anxiety are more

prevalent in adolescent students. Female adolescents are more likely to develop all forms of studied mental disorders i.e. stress, anxiety, and depression. Adolescent students witnessing domestic violence and experiencing abuse ever are more likely to have stress. Adolescent students having family health problems and witnessing domestic violence are more likely to have anxiety. Similarly, adolescent students who passed previous examinations, have a family history of mental illness, experience abuse ever, and use electronic device/ screen time at bedtime are more likely to have depression. Thus routine screening programs should be conducted in schools by coordinating with school health nurses and mental health counsellors for early identification and treatment of adolescent mental health problems. Stress management programs, adolescent mental health awareness campaigns, and counselling sessions should be organized at schools from time to time.

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REFERENCES

- World Health Organization. Adolescents Health. 2022. <https://www.who.int/health-topics/adolescent-health>.
- United Nations International Children Emergency Fund. 2022. Adolescents. <https://data.unicef.org/topic/adolescents/overview/>
- Solmi M, Radua J, Olivola M, Croce E, Soardo L, Salazar de Pablo G, et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. *Mol Psychiatry*. 2022 Jan;27(1):281-95. doi: 10.1038
- Salelkar SS, Borker SA. Prevalence of Depression, Anxiety and Stress among School Going Adolescents and their Relationship to Socioeconomic Status. *Ind J Youth Adol Health*. 2020;7(4):4.
- Silva SA, Silva SU, Ronca DB, Gonçalves VSS, Dutra ES, Carvalho KMB. Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. *PLoS One*. 2020 Apr 23;15(4):e0232007. doi: 10.1371/journal.pone.0232007. PMID: 32324835; PMCID: PMC7179924.
- Chaulagain A, Kunwar A, Watts S, Guerrero APS, Skokauskas N. Child and adolescent mental health problems in Nepal: a scoping review. *Int J Ment Health Syst*. 2019 Aug 12;13:53. doi: 10.1186/s13033-019-0310-y. PMID: 31413728; PMCID: PMC6689861.
- Jha AK, Ojha SP, Dahal S, Sharma P, Pant SB, Labh S, et al. Prevalence of Mental Disorders in Nepal: Findings from the Pilot Study. *J Nepal Health Res Counc*. 2019 Aug 4;17(2):141-147. doi: 10.33314/jnhrc.v0i0.1960. PMID: 31455924.
- Karki A, Thapa B, Pradhan PMS, Basel P. Depression, anxiety and stress among high school students: A cross-sectional study in an urban municipality of Kathmandu, Nepal. *PLOS Glob Public Health*. 2022 May 31;2(5):e0000516.
- Arif N, Yadav S, Gupta S. An epidemiological study of stress among adolescent of urban and rural Moradabad. *Int J Med Sci Public Health*. 2019; 8(9): 712-7. <https://doi.org/10.5455/ijmsph.2019.0512915062019>
- Guthold R, Carvajal L, Adebayo E, Azzopardi P, Baltag V, Dastgiri S, et al. The importance of mental health measurement to improve global adolescent health. *J Adolesc Health*. 2021;72(1S): 1-4. <https://doi.org/10.1016/j.jadohealth.2021.03.030>
- Choulagai BP, Sharma P. Stress, anxiety, and depression among adolescent students of public schools in Kathmandu. *JJOM*. 2020;40(3): 29-37. www.jjom.com.np
- Bhandari KP, Adhikari C. Prevalence and factors associated with anxiety disorder among secondary school adolescents of Dang district, Nepal. *J Gandaki Med Coll Nepal*. 2015;8(1):64-7.
- Albert PR. Why is depression more prevalent in women? *J Psychiatry Neurosci*. 2015 Jul;40(4):219-21. doi: 10.1503/jpn.150205. PMID: 26107348; PMCID: PMC4478054.
- Gautam P, Dahal M, Ghimire H, Chapagain S, Baral K, Acharya R, et al. Depression among Adolescents of Rural Nepal: A Community-Based Study. *Depress Res Treat*. 2021 Feb 4; 2021:7495141. doi: 10.1155/2021/7495141. PMID: 33628501; PMCID: PMC7880710.
- Izaguirre A, Calvete E. Exposure to Family Violence and Internalizing and Externalizing Problems Among Spanish Adolescents. *Violence Vict*. 2018; 1; 33(2):368-82.
- Stansfeld SA, Rothern C, Das-Munshi J, Mathews C, Adams A, Clark C, et al. Exposure to violence and mental health of adolescents: South African Health and Well-being Study. *B J Psych Open*. 2017 Oct 17;3(5):257-64.

17. Kennedy AC, Bybee D, Sullivan CM, Greeson M. The effects of community and family violence exposure on anxiety trajectories during middle childhood: the role of family social support as a moderator. *J Clin Child Adolesc Psychol*. 2009; 38(3):365-79. doi: 10.1080/15374410902851713. PMID: 19437297.
18. Gardner MJ, Thomas HJ, Erskine HE. The association between five forms of child maltreatment and depressive and anxiety disorders: A systematic review and meta-analysis. *Child Abuse Negl*. 2019;96:104082. doi: 10.1016/j.chiabu.2019.104082.
19. Stoeckel M, Weissbrod C. Growing up with an ill parent: An examination of family characteristics and parental illness features. *Fam Syst Health*. 2015 Dec;33(4):356-62. doi: 10.1037/fsh0000140. Epub 2015 Jun 29. PMID: 26120764.
20. Van Dijk MT, Murphy E, Posner JE, Talati A, Weissman MM. Association of Multigenerational Family History of Depression With Lifetime Depressive and Other Psychiatric Disorders in Children: Results from the Adolescent Brain Cognitive Development (ABCD) Study. *JAMA Psychiatry*. 2021 1;78(7):778-787. doi: 10.1001/jamapsychiatry.2021.0350. PMID: 33881474; PMCID: PMC8060885.
21. Al Salman ZH, Al Debel FA, Al Zakaria FM, Shafey MM, Darwish MA. Anxiety and depression and their relation to the use of electronic devices among secondary school students in Al-Khobar, Saudi Arabia, 2018-2019. *J Family Community Med*. 2020 Jan-Apr;27(1):53-61. doi: 10.4103/jfcm.JFCM_140_19. Epub 2020 Jan 13. PMID: 32030079; PMCID: PMC6984035.