ORIGINAL RESEARCH ARTICLE

ANXIETY AMONG SECONDARY SCHOOL ADOLESCENTS OF BHARATPUR METROPOLITAN CITY, CHITWAN

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ABSTRACT

Background: Anxiety is increasing global problem, but usually hidden from the public view. The objective of this study was to assess prevalence of anxiety among secondary school adolescents in Bharatpur Metropolitan City.

Methods: A cross-sectional study was conducted in the Bharatpur Metropolitan City. Systematic sampling technique was used to select 388 higher secondary school adolescents of grade 11 and 12. Data were collected from 18 January 2021 to 14 February 2021 using self administered questionnaire. Validated Nepali version of Beck's Anxiety Inventory was used for measuring the level of Anxiety. Data entry and analysis were done by IBM SPSS version 20 using descriptive and inferential statistics. Chi square test was used to find the association of Anxiety with independent variables.

Results: Among total participants, 30.7% had anxiety symptoms in which 19.9 % had mild anxiety, 7.6% had moderate anxiety and 3.2% had severe anxiety. Marital status of parents (p= <0.001), ongoing health problems (<0.001), history of mental illness (p=<0.001), marital status (p=0.04) and gender p=0.015) of respondent were found to have association with anxiety.

Conclusions: Study concluded that nearly one third of participant had reported to experienced anxiety disorder. Thus local government and school authority needs to pay special attention in addressing anxiety among adolescents by formulating different program and policies for school going adolescents in local level.

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INTRODUCTION

Mental illness which is considered as a leading cause of disability, if left untreated can cause severe emotional, behavioral and physical health problems. Anxiety is a type of mental health condition.[1]

Adolescence is a unique and formative time which refers to age group 10 to 19 years.[2] The transition from childhood to adulthood involves dramatic physical, sexual, psychological and social developmental changes, all taking place at the same time.[3] An estimated 10-20% of adolescents globally experience mental health conditions, yet these remain under diagnosed and undertreated. Some adolescents are at greater risk of mental health conditions due to their living conditions, stigma, discrimination or exclusion, or lack of access to quality support and services.[2]

Globally, there were 200 million cases of anxiety in 1990 and 272 million cases in 2010. Majority of disability falls within the adolescent and young adult age groups. The burden of suicide attributable to anxiety was equivalent to 10% of the burden caused by anxiety disorders. Anxiety accounted for 390 DALYs per 100,000 in 2010 where Females accounted for about 65% of the DALYs caused by anxiety. Nearly 1 in 3 of all adolescents ages 13 to 18 will experience an anxiety. [4]

Anxiety among the adolescents is in increasing trend. It is a serious problem but very few research has been conducted in anxiety disorders in Bharatpur Metropolitan City, Chitwan and most of study focused on private School only. Study will be helpful to manage anxiety among the adolescents by formulating appropriate policy in local level for managing anxiety problem in the schools. The objective of this study was to assess prevalence of anxiety symptoms among secondary school adolescents in Bharatpur Metropolitan City.

METHODS

A cross sectional study was conducted among 388 participants among secondary level school adolescents of grade 11 and 12 in Bharatpur Metropolitan City. Bharatpur Metropolitan was purposively selected and all the government Secondary schools were listed. 1/3rd of the schools were selected

randomly. Sampling frame was prepared. Ethical approval was taken from Chitwan Medical College Institutional Review Committee. Before data collection, permission was obtained from each selected school. Participants were selected by using systematic random sampling method. 1st participant was chosen by simple random sampling (lottery) method from within Kth value then followed the Kth value till required number of participant completed. The sample size for the study was calculated using Cochran's formula for finite population. Total sample size is 388.

Secondary school adolescents of government schools who presented at the time of survey and were willing to give written consent were included and those adolescents who can't hear and speak were excluded from the study. Data collection was done by using Self administered questionnaire. Data were collected from 18 January 2021 to 14 February 2021 by researcher themselves using self administered questionnaire. Informed consent was taken from the participants and their guardians. Sitting arrangements were made properly so that confidentiality was maintained and they could not copy the answers while administering the questionnaire. Brief information was provided about the study, objectives and techniques of filling up the questionnaire for those students who were invited for participation. A 21 items 4 points validated Nepali version of Beck's Anxiety Inventory scale was used for diagnosing and leveling the anxiety. Total possible scores ranging from 0-63 (minimal: ranges from 0-7 score, mild: 8-15 score, moderate: 16-25 score and severe: 26-63 score).[16] Internal consistency for the Beck Anxiety Inventory was maintained with Cronbach's alpha 0.92. Pre testing was done among 10% of the sample. Data entry and analysis was done using IBM SPSS 20 version. Descriptive (percentage and frequency) and inferential analysis (chi-square association) was done.

In this study, severe event in family refers to Injuries, Accidents, Diseases, deaths in the family or loved ones in past 1 year. Academic performance refers academic performance of a student in the last examination. It was recorded as "Passed" or "Failed". Conflict refers fighting among family member over inheritance to disagreeing about who will pay for aging parents or family events.

RESULTS

Among 388 Participants, 91.8% were under age group 17 and median age was 17 years, 53.4% were female. About 54.6% were from grade eleven, 35.1% were janajati, 81.7% from hindu religion, 68.3% were belong to nuclear family. Majority (80.7%) of the participants were single and unmarried. Regarding the education of participant's father, 17.6% were illiterate. Among the literate, nearly half (46.9%) had completed their primary education. Similarly, 31.7% of participants mother were illiterate and majority of the mother had completed primary level of education (46.1%). In case of family income, about 28.4% had earned ranges from 20,000- 30000. About 30.4% of participant's father occupation were agriculture. Similarly, majority (39%) of participant's mothers were engaged in agriculture (39%). The findings showed that majority (67.3%) of the participants had very good relationship with their mother. A total of 42.7% of adolescents had very good relationship with their father. About 23.2% of participants had severe events in their family within 1 year. Very few of participants (3.4%) reported conflict occur every day in their family while (68.9%) of them had a conflict occasionally. About 11.6% adolescents had family history of mental illness and 89.7% parents were married and living together. Majority of students (96.1%) had passed the last exam, 62.4% adolescents sleep 6-8 hours, 83.8% didn't had any ongoing physical illness, 76.3% were currently living with their parents and 93.8% participants didn't had any history of mental illness (Not shown in table).

Among 388 participants, 119 (30.7%) of the participants were found to have anxiety. Among anxious, 19.9% had mild anxiety, 7.6% had moderate anxiety and 3.2% had severe anxiety which was assessed using Beck Anxiety Inventory Scale.

Table 1: Prevalence of anxiety among the secondary school adolescents of Bharatpur Metropolitan City (n=388)

Anxiety	Frequency (%)
Presence	119 (30.7%)
Absence	269 (69.3%)
Level of Anxiety	
Minimal	269 (69.3%)
Mild	77 (19.9%)
Moderate	29 (7.6%)
Severe	12 (3.2%)

Median=4,Interquartile range=8, minimum=0, maximum=50

In this study, Sex (p=0.015) and marital status of respondent (p=0.044), were found to be statistically significant with anxiety disorder. There was no statistical association between age, ethnicity, religion, type of family, grade of education, education and occupation of parents, family monthly income and anxiety among adolescents.

Table 2: Association between Anxiety and Socio demographic characteristics (n=388)

| Variables | Anxiety | | Chi square | P-value |
	Presence No. (%)	Absence No. (%)		
Sex				
Female	74(35.7%)	133(64.3%)	5.971	0.015*
Male	44(24.3%)	137(75.7%)		
Age				

	Presence	Absence	Chi-square	P-value
<=17	106(29.8%)	250(70.2%)	0.828	0.422
18 and 19	12(37.5%)	20(62.5%)		
Ethnicity				
Brahmin/chhetri	47(28.3%)	119(71.7%)		
Janajati	45(33.1%)	91(66.9%)	0.807	0.668
Other (dalit, madeshi, other)	26(30.2%)	60(69.8%)		
Religion				
Hindu	97(30.6%)	220(69.4%)	0.029	0.866
Other than Hindu	21(29.6%)	50(70.4%)		
Family Type				
Nuclear	79(29.8%)	186(70.2%)	0.143	0.706
Joint/extended	39(31.7%)	84 (68.3%)		
Marital status of participant				
Married	30(40.0%)	45(60.0%)	4.038	0.044*
Single	225(71.9%)	45(60.0%)		
Grade				
11	62(29.2%)	150(70.8%)	0.583	0.301
12	56(31.8%)	120(68.2%)		
Father educational status				
Illiterate	23(34.8%)	43(65.2%)		
Primary education	43(25.6%)	125(74.4%)	0.790	0.674
Secondary and above	44(30.1%)	102(69.9%)		
Mother educational status				
Illiterate	37(30.1%)	86(69.9%)		
Primary education	54(30.2%)	125(69.8%)	0.051	0.975
Secondary and above	27(31.4%)	59(68.6%)		
Monthly income				
Less than 10,000	33(37.9%)	54(62.1%)		
10,000-20,000	26(27.4%)	69(72.6%)		
20,000-30,000	29(26.4%)	81(73.6%)	3.624	0.305
More than 30,000	30(31.2%)	66(68.8%)		
Father occupation status				
Agriculture	29(25.4%)	85(74.6%)	1.887	0.170
Other than occupation	89(32.5%)	185(67.5%)		
Mother occupation status				
Agriculture	39(26.0%)	111(74%)	2.250	0.134
Other than agriculture	79(33.2%)	159(66.8%)		

*Statistically significant at p<0.05(Applying pearson chi-square test for asscociation at 5% level of significance)
a: Others include-Dalit, Madhesi b: Non-Hindu includes- Buddhist, Muslim, Christian

This study revealed that marital status of parents (p=<0.001), ongoing health problem of participants (p=< 0.001) and presence of mental illness in participants (p= 0.031) were statistically significant with anxiety of participants. There was no establishment of statistical association between severe events in family within 1 year, conflict in family, family history of mental illness, academic performances, sleeping pattern, current place of residence and anxiety of participants.

Table 3: Association between Anxiety and Family/ personal related characteristics of participants   (n=388)

Variables	Anxiety		Chi-square	P-value
	Presence **No (%)**	**Absence** **No (%)**		
Severe events in Family				
Yes	33(36.7%)	57(63.3%)	2.166	0.141
No	85(28.5%)	213(71.5%)		
Conflict in family				
Yes	30(24.8%)	91(75.2%)	2.170	0.338
No	80(32.3%)	168(67.7%)		

Family history of mental illness				
Yes	16(35.6%)	29(64.4%)	0.636	0.425
No	102(29.7%)	241(70.3%)		
Marital status of parent				
Married	92(26.4%)	256(73.6%)	25.210	<0.001*
Other than Married	26(65%)	14(35%)		
Academic performances				
Pass	113(30.3%)	260(69.7%)	0.063	0.802
Fail	5(33.3%)	10(66.7%)		
Sleep hours				
Less than 6 hours	20(33.9%)	39(66.1%)	0.486	0.784
6-8 hours	71(29.3%)	171(70.7%)		
More than 8 hours				
Ongoing health problems				
Yes	34(54%)	29(46%)	19.720	<0.001*
No	84(25.8%)	241(74.2%)		
Living with parents				
Yes	84(28.4%)	212(71.6%)	2.440	0.118
No	34(37%)	58(63%)		
History of mental illness of respondent				
Yes	12(50%)	12(50%)	4.638	0.031*
No	106(29.1%)	258(70.9%)		

*Statistically significant at p<0.05(Applying pearson chi-square test for asscociation at 5% level of significance), Other than married includes: Divorced, Widow, separated

DISCUSSION

Mental ill-health in adolescents is a significant public health issue that deserves greater levels of attention of researchers. The present study showed that the overall prevalence of anxiety among secondary school adolescents of Bharatpur metropolitan City was 30.4% which is similar with the study conducted in Enugu South east Niger (34.1%).[6] This finding is lower than the study executed in Dang Metropolitan (46.5%),[5] and Iraq [14] The finding of the study is very low than the finding of Chandigarh (80.85%) [7] while it is higher than the finding of the study conducted in Northern India (16.6%),[8] Germany (18.6%)[9] and Dresden, Germany.[15] This variation may be due to variation in methodology used and study setting.

The findings of the study showed that 30.7% had anxiety and among them, 19.9% had mild anxiety, 7.6 % had moderate anxiety, 3.2% had severe anxiety which is lower than the study conducted on Tripura mild anxiety (49.4%) followed by moderate anxiety (43.3%) and severe anxiety (7.3%).[10] This variation might be due to implementation of current national strategy and program to prevent and control the psychological distress in adolescent in Nepal.

Concerning, the socio-demographic characteristics sex (p=0.015) was found to be associated with the anxiety which is in line with the study conducted in Dang (p=0.031),[5] and Niger (p=0.001).[6] Girls have the higher prevalence compared to boys which is supported by the study conducted among adolescents in Germany, Northern India, Chandigarh, Tripura and Iran. [7-10] It was seen that higher percentage of female students were affected with severe anxiety compared to their male

counterparts. Adolescence time is considered as transitional time period where physical, emotional and social changes occur. Girls are more sensitive towards their body image and they have more psychological stress and tension. This shows female students were more vulnerable to develop anxiety and needed special attention to combat against anxiety in this group.

In regard to the association between independent variables and anxiety of secondary school adolescents, the present study showed that the parental marital status was significantly associated (<0.001) with anxiety. Very few participant developed anxiety whose parents were living together. This might be due to feeling of incomplete family, feeling of loneliness with single parent and poor emotional wellbeing of the adolescence.

In this study, there is association between anxiety and history of mental illness of the respondent (p=0.031). Having another mental health disorder, like depression, raises risk for anxiety. Nearly half of those with major depression also suffer from severe and persistent anxiety. People who are depressed often feel anxious and worried. This finding is in line with study done in Bangladesh. [11]

Ongoing health problem of respondent was found to have significantly associated (p=<0.001) with anxiety of the adolescents. This might be due to continuous visit for hospital, financial burden, uncertainties in prognosis, activity impairment, increase dependency and consumption of time and effort for treatment of health problem. This finding is contrary with the finding of study done in northern India.[12] This

variation in result might be due to different study setting and sample size.

Similarly, this study revealed that anxiety was not significantly associated with academic performance which is in line with the study done in Biratnagar; Nepal.[13] This study showed no significant association of anxiety with severe events occur in family, living with parents and religion and which is supported by the study done in Dang district.[5]

In this study, self administered questionnaire was used for data collection and findings is based on the students self reported answers that may limit the validity of result. It was a cross sectional study, it limited on the causal statements that can be made about relationships between variables and hence future studies should strive to adopt longitudinal designs allowing the testing of causality.As this study was conducted only on the government secondary schools of Bharatpur metropolitan City that may not represent the scenario of whole Chitwan district.

CONCLUSION

Anxiety is prevalent yet under recognized problems and lead to further co-morbidity if left untreated. This study was conducted to identify the prevalence of anxiety and its associated factors.

High prevalence of anxiety was found among the secondary school adolescents in Bharatpur Metropolitan city. Sex, marital status of respondent, marital status of parents, ongoing health problems, history of mental illness of respondent was found to have association with anxiety. So attention should be paid by local level policy maker and school authorities' while developing appropriate policy strategies in order to tackle the problem related to Anxiety. Female oriented awareness program in schools may be helpful.

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