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Original Research Article

Prevalence of depression among secondary level students in Harion Municipality, Sarlahi

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ABSTRACT

Background: Depression is a common mental disorder with a depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration. Globally the prevalence of depression among (15-19 years) males and females are 3.1% and 4.5% respectively. According to WHO, the prevalence of depression in Nepal is 3.2% and the prevalence of depression in (15-19 years) is 7.6%. This research was conducted to determine the prevalence of depression among the secondary-level adolescents of Harion municipality and to examine the variances according to socio-demographic factors, socio-economic factors, etc.
Methods: Analytical cross-sectional study design was used in this research. Schools were selected through Simple Random Sampling. Participants were students of 9 and 10 selected schools. The PHQ9 (Patient Health questionnaire) was used to ascertain the prevalence of depression at various levels.
Results: Out of 168 students, 97 (57.7%) students had depression. The mean age of the students was 16. Family type of students (p-value=0.036, 95% CI=0.261-0.959 and OR =0.5), students education level (p-value=0.044, 95% CI=0.273-0.986 and OR= 0.519) and physical activities (p-value=0.015, 95% CI=0.248-0.865 and OR=0.463) were found to be statistically significant.
Conclusions: The prevalence of depression was seen higher among school-going adolescents in two schools in Harion municipality. There is a need for early identification of depression which can prevent other psychiatric disorders in teen-age.

Keywords: Adolescent, Depression, Prevalence, Sarlahi

INTRODUCTION

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite and poor concentration. Depression often comes with symptoms of anxiety. Depression is a significant contributor to the global burden of disease and affects people in all communities across the world. Today, depression is estimated to affect 350 million people. The World Mental Health Survey conducted in 17 countries found that on average about 1 in 20 people reported having an episode of depression in the previous year. The demand for curbing depression and

other mental health conditions is on the rise globally. A recent World Health Assembly called on the World Health Organization and its member states to take action in this direction (WHO, 2012).[1]

According to the meta-analysis it was estimated that the prevalence of the major depressive disorder among adolescents aged 13-18yr to be 5.6 percent.[2] The proportion of the global population with depression in 2015 is estimated to be 4.4%. Depression is more common among females (5.1%) than males (3.6%). The total number of people living with depression in the world is 322 million.[3] Nearly half of these people live in the South-East Asia Region and Western Pacific Region, reflecting the relatively large populations of those two Regions (which include India and China, for example). The total estimated number of people living with depression increased by 18.4% between 2005 and 2015 this reflects the overall growth of the global population, as well as a proportionate increase in the age groups at which depression is more prevalent.[1] According to WHO, prevalence of depression in Nepal is 3.2% and the prevalence of depression in (15-19 years) is 7.6%. Female students are highly depressed than male students. Globally the prevalence of depression among (15-19 years) male and female are 3.1% and 4.5% respectively.[3]

The objective of the study was to find the prevalence of depressive symptoms in different levels and find the association between depressive symptoms and demographic components among the students (9 and 10) of selected schools.

METHODS

A school based quantitative cross-sectional study was conducted from February 2020A.D to April 2021 A.D among 168 students (Class 9 and 10) of Orchid Higher Secondary School and Shree Jana-Sewa Secondary School of Harion Municipality of Sarlahi district of Nepal.

Simple Random Sampling was done to select the schools and Census was done in selected schools (Class 9 and 10). A set of structured questions i.e. PHQ9 tool was used and the question was defined to the respondent before the distribution of questionnaire. Students who were absent, unable to respond during data collection time and students below class 9 and above 10 were excluded from this study. Confidentiality was maintain throughout the whole study.

In this COVID-19 pandemic situation the data was collected by following the guidelines of (MoHP and WHO) by maintaining the social distancing and using the personal protective equipment (PPE). Formal approval letter was taken from college. The approval was taken from the school and consent of students and schools was taken before data collection. Orientation was given to students regarding how to fill up the questionnaire before the distribution of questionnaire.

The collected quantitative data were presented using the descriptive statistics using the SPSS 21.0. The relation between dependent and independent variables were shown by using chi-square test. P-value less than 0.05 was considered statistically significant throughout the analysis in this study.

RESULTS

Socio-demographic characteristics of respondents

Table 1 shows the socio-demographic characteristics of respondents. Among 168 respondents there were 91 (54.17%) male and 77 (45.83%) female respondents. Majority (88.70%) of the students were in age group 13-17 years and the mean age was 16 years with SD 1.1861. Most (82.70%) of the students follow Hinduism. One hundred and twelve (66.70%) of the students have nuclear family and 101 (60.10%) students were of class 10. One-third (76.20%) of the student father and one-third (63.10%) of the student mother were literate. Sixty one (36.30%) of the student fathers were engaged in agriculture, 67.20% of the student mothers were house manager and 48.80% household monthly income was Rs.10000- Rs.25000.

Different Information of Respondents

Table 2 shows the different information of the respondents where among total 168 respondents 4 (2.4%) of the students smoke and consume alcohol. Majority 94 (56%) of the student does the physical activity regularly and 110 (65.50%) of the students consumed balanced diet food daily. Among 168 students 101 (60.10%) students have heard about depression.

Prevalence of Depression

Table 3 shows the prevalence of depression among surveyed students. It shows that more than half (57.70%) of students had depression. Among 168 students, majority (42.30%) showed mild depression followed by 5.40% showed moderately severe depression and 0.60% showed severe depression.

Factors affecting or causing the prevalence of depression

Table 4 shows the factors that affect the prevalence of depression. It shows that respondents age group and sex was not statistically significant. It also shows that female respondents were 0.712 times more likely to have depression than male respondents. It also shows that family type was statistically significant with depression as per protocol (p-value=0.036 which was ≤0.05, 95% CI=0.261-0.959 and OR =0.5). It also showed that respondents with joint families were 0.5 times more likely

to have depression than respondents with nuclear families. The respondents with illiterate father were 1.013 times more likely to have depression than respondents with literate father. Similarly, the respondents with illiterate mother are 1.339 more likely to have depression than respondents with literate mother. It also showed that grade of students was also significantly associated with depression as per protocol (p-value=0.044 which was ≤0.05, 95% CI=0.273-0.986 and OR= 0.519) which shows that grade 10 students are 0.519 times more likely to have depression than grade 9.

Table 1: Socio-Demographic Characteristics of respondents).

Characteristics	Sex					
	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
Age group (in years)						
13-17	75	82.40	74	96.10	149	88.70
17-21	16	17.60	3	3.90	19	11.30
Total	91	100	77	100	168	100
Mean:16 SD:1.1861						
Religion						
Hinduism	76	83.50	63	81.80	139	82.70
Buddhist	7	7.70	9	11.70	16	9.50
Muslim	8	8.80	4	5.20	12	7.10
Christian	0	0	1	1.30	1	0.60
Total	91	100	77	100	168	100
Family type						
Nuclear Family	50	54.90	62	80.50	112	66.70
Joint Family	41	45.10	15	19.50	56	33.30
Total	91	100	77	100	168	100
Education Level						
Class 9	31	34.10	36	46.80	67	39.90
Class 10	60	65.90	41	53.20	101	60.10
Total	91	100	77	100	168	100
Father Education						
Illiterate	20	22	20	26	40	23.80
Literate	71	78	57	74	128	76.2
Total	91	100	77	100	168	100
Mother Education						
Illiterate	35	38.50	27	35.10	62	36.90
Literate	56	61.50	50	64.90	106	63.10
Total	91	100	77	100	168	100
Father Occupation						
Government worker	2	2.20	8	10.40	10	6
NGO/Private worker	9	9.80	5	6.50	14	8.30
Agriculture	40	44	21	27.30	61	36.30
Business	19	20.90	16	20.70	35	20.80
Foreign Employment	12	13.20	15	19.50	27	16.10
Daily labors	4	4.40	4	10.40	8	4.80
Others	5	5.50	8	5.20	13	7.70
Total	91	100	77	100	168	100
Mother Occupation						
House manager	64	70.30	49	63.60	113	67.20
Government worker	6	6.60	2	2.60	8	4.80
NGO/Private worker	1	1.10	2	2.60	3	1.80
Agriculture	19	20.90	19	24.70	38	22.60
Business	0	0	1	1.40	1	0.60
Foreign Employment	1	1.10	3	3.80	4	2.40
Others	0	0	1	1.40	1	0.60
Total	91	100	77	100	168	100

Continued.

Characteristics	Sex					
	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
Monthly Income						
≤Rs.10000	11	12	14	18.20	25	14.90
Rs.10000-Rs. 25000	42	16.20	40	51.90	82	48.80
Rs.25000-Rs.50000	24	26.40	19	24.70	43	25.60
≥Rs.50000	14	15.40	4	5.20	18	10.70
Total	91	100	77	100	168	100

Table 1: Different information of respondents.

Characteristics	Sex					
	Male		Female		Total	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Smoke						
Yes	4	4.4	0	0	4	2.4
No	87	95.6	77	100	164	97.6
Total	91	100	77	100	168	100
Alcohol consumption						
Yes	5	5.5	0	0	5	3
No	86	94.5	0	100	163	97
Total	91	100	77	100	168	100
Physical activity						
Yes	64	70.30	30	39	94	56
No	27	29.70	47	61	74	44
Total	91	100	77	100	168	100
Balanced diet consumption in a week						
Daily	55	60.40	55	71.40	110	65.50
Often	16	17.60	10	13.00	26	15.50
Sometimes	19	20.90	12	15.60	31	18.50
Rarely	1	1.10	0	0	1	0.50
Total	91	100.00	77	100.00	168	100.00
Heard about depression						
Yes	52	57.10	49	63.60	101	60.10
No	39	42.90	28	36.40	67	39.90
Total	91	100	77	100	168	100

Table 2: Prevalence of depression among respondents.

Prevalence of depression	Frequency (N=168)	Percentage (%)
No	71	42.30
Yes	97	57.70
Total	168	100
Levels of depression prevalence		
No depression	71	42.30
Mild depression	71	42.30
Moderate depression	16	9.50
Moderately severe depression	9	5.40
Severe depression	1	0.60
Total	168	100

Similarly, respondents who does physical activities regularly were 0.463 times less likely to have depression as per protocol (p-value=0.015 which was ≤0.05, 95% CI=0.248-0.865 and OR=0.463) than who does not perform physical activities which was found to be statistically significant.

DISCUSSION

Our study was conducted to assess the prevalence of depression among secondary level adolescents in schools of Harion Municipality. The analytical cross-sectional study was done among the 168 students of Shree Jana Sewa Secondary School and Orchid Higher Secondary Boarding School.

Table 3: Factors affecting or causing the prevalence of depression among respondents.

Variables	Depression Prevalence (%)		P value	OR	95% CI
	Yes	No			
Age group (in years)					
13-17years	90 (92.8)	59 (83.1)	0.051	1	Ref
17-21years	7 (7.2)	12 (16.9)		0.382	0.142-1.027
Sex					
Male	56 (57.7)	35 (49.3)	0.278	1	Ref
Female	41 (42.3)	36 (50.7)		0.712	0.385-1.317
Family type					
Nuclear family	71 (73.2)	41 (57.7)	0.036	1	Ref
Joint family	26 (26.8)	30 (42.3)		0.5	0.261-0.959
Education level					
Class 9	45 (46.4)	22 (31)	0.044	0.519	0.273-0.986
Class 10	52 (53.6)	49 (69)		1	Ref
Father education					
Illiterate	23 (23.7)	17 (23.9)	0.972	1.013	0.494-2.077
Literate	74 (76.3)	54 (76.1)		1	Ref
Mother education					
Illiterate	33 (23.7)	29 (23.9)	0.365	1.339	0.711-2.521
Literate	64 (76.3)	42 (76.1)		1	Ref
Physical activities					
Yes	32 (45.1)	62 (63.9)	0.015	0.463	0.248-0.865
No	39 (54.9)	35 (36.1)		1	Ref

Current study reported among 168 students 71 (42.3%) respondents did not have depression and remaining 97 (57.7%) respondents had depression. Similar study was conducted in research article "Depression, Anxiety and Stress among the Undergraduate Students of Pokhara Metropolitan, Nepal" which stated that the prevalence of depression was 38.2%.[4] Similar study had less prevalence of depression than our current study. Similar result was found in the research article "Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh" where prevalence of depression was 65.53%.[5] Similar study was conducted in Chennai, South India in prevalence of possible depression and associated biosocial risk factors among adolescents in a private school where (33.7%) had 'possible depression'.[6] Less prevalence of depression result was found in the similar study than current study.

Current study shows that severity-wise, among 168 respondents 71 (42.3%) respondents had no depression, 71 (42.3%) had mild depression, 16 (9.5%) had moderate depression, 9 (5.4%) had moderately severe depression and 1 (0.6%) had severe depression. In terms of severity, 29.7% had mild depression, 15.5% had moderate depression, 3.7% had moderately severe depression and 1.1% had severe depression.[7] In the current and similar study, similar result i.e. the prevalence of depression is high among adolescent was found.

In this study the prevalence of depression was high in the age group (13-17 years) 90 (92.8%). Similar study was conducted in Chennai, South India in prevalence of possible depression and associated biosocial risk factors among adolescents in a private school where adolescents aged 16 years (39.5%) had higher proportion of possible depression.[6] In the current and similar study, similar result was found.

In this current study, boys had high prevalence of depression (57.7%) than girls (42.3%). Similar study was conducted in Iran on topic "Prevalence Depression among Adolescents in North of Iran" results showed depression was prevalent in the sample with 29.5% of boys and 17.8% of girls to be suffering from high depression.[8] In the current and similar study, similar result i.e. boys had high prevalence of depression than girls were found. Study was conducted in Chandigarh in the title "Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh" where the prevalence of DAS was higher in females.[5] In the current and similar study, opposite result was found. Study was found in the article issued by WHO title "Depression and Other Common Mental Health Disorders" on Global Health Estimates states that Female students are highly depressed than male students. Globally the prevalence of depression among (15-19 years) male and female are 3.1% and 4.5%.[2] In the current and similar study, opposite result was found. Similarly, the research article "Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh" had also state

that the prevalence of DAS was high among school going adolescents in Chandigarh.[5] Opposite result was found in current and the similar study.

In this study, it was found that physical activities (p-value=0.015) were significantly associated with depression. Similar study conducted in Chennai, South India in Prevalence of possible depression and associated biosocial risk factors among adolescents in a private school stated that physical activity activities (p-value=0.039) were significantly associated with depression.[6] The current study and similar study was revealed to have same result.

Since the prevalence of depression was high in our study, natural monitoring provision for adolescent should be made. Psychological health should be the prime concern of school authorities, and it should be integrated with school health programs. For relieving depression, yogic exercises, meditation, laughter therapy, and other recreational activities suitable for that group of students should be made part of school curriculum. There should be counseling sessions for students and their parents. Students must be made aware of the ill effects of substance abuse through lectures so that they do not indulge in such things. Since depression level was found more among the boys than the girls, more attention should be paid to boy child under school health program. The study has a number of strengths. The study used data from school-level adolescent representatives with a large sample size, which itself had a rigorous and scientific design. The study included a wide range of mental health indicators as outcome variables and used appropriately statistical. The study's major limitations are related to the nature of the study design and specific respondents.[9,10]

CONCLUSION

This study reveals that out of 168 respondents 97 (57.7%) of the respondents were suffering from depression according to PHQ9 tool while, 9 students were suffering from moderately severe depression and one was severe depression. Family type, education level of students and physical activities were the factors affecting or causing the depression among the respondents.

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