

Depression trait in college students and its relation with sleep

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ABSTRACT

Depression is a mental state in which someone become sad it is a feeling of unpleasantness. Major depressive disorder (MDD) also known as depression, is a mental disorder characterized by low mood. Prevalence of depression is higher in university students as most of the students do not talk about depression. The present study was aimed to find out the prevalence of depression in college going students in a suburban area with a mixed population of different socio-economic status. 166 college going student were studied in Kolkata for their depression level and its relation with sleeping hours. The study revealed that most the students were mild depressed but a large number students were out of depression. Girls were more depressive than the boys. The study also revealed that there was no relationship between depression and sleeping hours.

Keywords: *Depression, MDD, Sleep, Mental State*

Depression is a mental state in which someone becomes sad and a feeling of unpleasantness. According to American Psychiatric Association, depression (major depressive disorder) is a common and serious medical illness that negatively affects someone's feeling and its act. Major depressive disorder (MDD), also known as depression, is a mental disorder characterized by at least two weeks of low mood that is present across most situations. It is often accompanied by low self-esteem, loss of interest in normally enjoyable activities, low energy, and pain without a clear cause, abnormal sleep. People may also occasionally have false beliefs or see or hear things that others cannot (Beck 1972). Some people have periods of depression separated by years in which they are normal, while others nearly always have symptoms present. Major depressive disorder can negatively affect a person's personal life, work life, or education, as well as sleeping, eating habits, and general health.

The cause is believed to be a combination of genetic, physiological, environmental, and psychological factors. The Beck Depression Inventory (BDI, BDI-1A, BDI-II), created by Aaron T. Beck, is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for measuring the severity of depression. In its current version, the BDI- II is designed for individuals aged 13 and over, and is composed of items

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Depression trait in college students and its relation with sleep

relating to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well as physical symptoms such as fatigue, weight loss, and lack of interest in libido.

Prevalence of depression is high in adolescence. Study revealed that up to 12.5% of 12- to 17-year-olds experienced symptoms of major depressive in a 12-month period. Longitudinal research estimated that a large proportion of those who experienced depression in adolescence period, would go on to experience at least one more time in adulthood (Barman et al. 2018).

Depression in university students is immensely prevalent and pervasive problem across the country (Ildarabadi et al 2004, Abedin et al 2007, Frotani 2005). Struggle for maintaining adequate grades, future planning and being away from home causes anxiousness for many students. The reaction of these stress causes depression in some students. They remain isolated, cry and skip classes, shows avoidance without knowing that they are depressed. Several researches reported higher prevalence of depression in university students (Eller et al 2006, Ibrahim et al 2012, Mahmoud et al 2012, Reavley and John 2012). Since over two-thirds of young individuals did not talk about or get help for psychological health issues, university students have higher prevalence of depression. In developing countries 10%-14% individuals are suffering with anxiety and depression (Khan et al 2007, Muhammad Gadit and ugford 2009). Among these countries India, Pakistan has higher prevalence of depression because of social hardships (Husain et al. 2007). Academic pressures and carrier compulsions have also cause depression. Depression in Indian students remains a major point of concern.

The present study was aimed to find out the prevalence of depression and its relationship with Sleeping hours in college going students in suburban area with a mixed population of different socio-cultural status.

METHODOLOGY

Studied Population: The study had considered 166 students from urban areas near Kolkata from three different colleges namely Bramhananda Keshab Chandra College, Prasanta Chandra Mahalanbis Mahavidyalaya and Mrinalini Dutta Mahavidyapith. Out of which 77 individuals were male and 89 individuals were female. The participants were from the age group of 17-24 year having no physical deformity or recent history of severe illness as well as non-pregnant (in case of female). The colleges were selected because of mixed economical and caste to establish an overall scenario on depression level of college going students of urban areas.

Research Ethics: To pursue the permission for data collection the researcher contacted with the principals from the above-mentioned colleges. The data collection had done only with oral consent of the participant and written documentation as permission from the principal's desk.

Data Collection: In the present study a set of 21 questions were asked for each individual to find out Depression level. For each participant 30-minute period was set for interviewing. Before the tests, participants were asked to take rest in a less noise and less disturbed class room. The interview was taken in a separate room. The set of questions were given to the participants asked them to answer. Each question was explained well before they answer. The answered questions were scored after completion of the interview.

Depression trait in college students and its relation with sleep

Beck depression Inventory (BDI) test: Beck Depression Inventory test (BDI) is one of the most widely used Psychometric Tests for measuring the severity of Depression. The test is created by Aaron T. Beck (1961) and later on revised in 1978 as BDI-1A, and then again revised in 1996 as BDI-II. The Test was a 21 questions of multiple-choice self-report Inventory. There are three versions of the BDI - the original BDI (1961), the revised versions BDI-1A (1978) and BDI-II (1996). In the present study, BDI-II (1996) was used. The BDI-II was designed for individuals aged 13 and over. The test questions were composed of items related to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well physical symptoms such as fatigue, weight loss and lack of interest, sleeping, and nutritional status in terms of BMI etc.

Statistical analysis: Statistical analysis was done using SPSS 16.0, Excel and www.socialsciencesearch.com

RESULTS

Table 1: Descriptive statistics of physical characteristics, depression score and sleeping of all students when considered as one group (n=166)

N=166	Age (yr)	Ht(cm)	Wt(kg)	Sleeping time (hr)	Depression score
mean	18.6	160.4	57.6	7.5	13.6
sd	1.2	9.1	12.7	1.4	8.7
min	17	136.8	31.3	4	1
max	24	186.9	115.0	12	44

Table 2: Descriptive statistics of physical characteristics, sleeping hours and depression score of Boys studied in the present study (n=77)

N=77	Age(yr)	Ht(cm)	Wt (kg)	Sleeping time(hr)	Depression score
Mean	19.2	167.0	62.1	7.2	12.4
Sd	1.3	6.6	13.1	1.5	8.6
Min	17	149	39.6	4	1
max	24	186.9	115.0	12	35

Table 3: Descriptive Statistics of physical characteristics, depression score, and sleeping hours of girls studied in the present study (n=89)

N=89	Age(yr)	Ht(cm)	Wt (kg)	Sleeping time(hr)	Depression score
Mean	18.7	154.8	53.6	7.7	14.7
Sd	0.9	6.8	10.9	1.2	8.7
Min	17	136.8	31.3	5	1
Max	21	172.0	86.3	10	44

Table 4: Depression level in male and female students.

Mild¹: Mild Mood Disturbance, Borderline²: Borderline Clinical Depression, Moderate³: Moderate Depression, Severe⁴: Severe Depression, Extreme⁵: Extreme Depression.

Depression Level	Depression level in Female (n=89)		Depression level in Male (n=77)		Total (Male & Female) n=166	
	no	%	no	%	n	%
Normal	32	35.9 %	36	46.8 %	68	40.9 %
Mild ¹	30	33.7 %	18	23.4 %	48	28.9 %
Borderline ²	13	14.6 %	10	12.9 %	23	13.8 %
Moderate ³	9	10.1 %	10	12.9 %	19	11.5 %
Severe ⁴	2	2.3 %	3	3.8 %	5	3.0 %
Extreme ⁵	3	3.4 %	0	0 %	3	1.9 %

Depression trait in college students and its relation with sleep

Table 5: t-values and level of significance within different variables between female and male students.

**(n=number; SD= Standard deviation; NS= Non-Significant)*

Parameters	Female Student	Male Student	t-value	P-value	Significant
n =166	Mean ± SD	Mean ± SD			
Age (yr)	18.7 ± 0.9	19.2 ± 1.3	3.6	0.001	Significant
Family income(Rs)	22463 ±13878	21116±11357	0.5	0.29	NS
Depression score	14.7 ± 8.7	12.4 ± 8.6	1.7	0.05	Significant
Sleeping hour	7.7 ± 1.2	7.2 ±1.5	2.4	0.005	significant

DISCUSSION

In the present study, 166 students (89 girls, 77 boys) were studied for their depression status. The students were from the suburban areas of a Metro City, Kolkata, West Bengal, India. They study was conducted in three different colleges of two different areas where the students spend around 7 to 8 hours in a common educational environment, though they were from families with different economic and socio-cultural status.

The average age of the students was 18.6 (± 1.2) yr. with a range of 17-24 yr. Average sleeping hour was 7.5 hr. (± 1.4) with a range of 4-12 hrs. Average Depression score was 13.6 (± 8.7) with a lowest depression score of 1 and highest depression score of 44 (Table 1). In the present study, male and female students were significantly differed in all accepts except in family income (Table 5). The female students were significantly junior than the male students in average. Average sleeping hours for boys was 7.2 hr whereas that of the girls was 7.7 hr which was significantly more than the boys (Table 5). On the contrary, average depression score of the girls was significantly higher than the boys which were 14.7 (± 8.7) and 12.4 (± 8.6) for girls and boys respectively (Table 2, Table 3, & Table 5). Thus, the girls were more depressed than the boys in the present study. In a previous study, studied by the same authors (Chakrabarti et al 2019) observed no significant differences in depression in between boys and girls when they worked on a limited small area. But in the present study significant difference were observed when one more college student were included with population with different world view, different family status or different college or educational environment. This may be the reason for differences between previous study and present study by the same authors.

Bukhari and Khanam (2015) observed Depression in Karachi University students in Karachi. They observed that 33.5 % were moderate depressed and 28.7% were severely depressed. Only 15.1% of the students were not depressed. They observed depression was common in male and female university students belonging to different socioeconomic status in Karachi, Pakistan. Over all male university students have higher level of depression than female (Bukhari and Khanam 2015). In the present study, 35.9 % female students and 46.8 % male students were without any depression. But 33.7 % female students and 23.4 % male students were with mild depression. Borderline depression was observed in 14.6 % female students whereas it was 12.9% in male students. 10.1 % female and 12.9 % male students were moderately depressed. Less female and male students were depressed severely (2.3 % female and 3.8% male), But extreme depression was not observed in male students but observed in female students which was 3.4 % . (Table 4).

There is a complex relationship in between Depression and sleep. Excessive sleepiness not only affects someone's physical health, but it had big impact on someone's mental health as well. When someone don't get the 7-8 hours of quality sleep person needed, it could heavily

Depression trait in college students and its relation with sleep

influence motivation, and emotions. Moreover, the sleeping time get varied with varied depression level which is person specific. But in the present study, no significant relationship was observed between depression and sleep. A very poor non-significant correlation coefficient was observed in between depression and sleeping hours($r=0.027$) in the present study. In the present study, average sleeping hour for all the students was 7.5 hr (± 1.4) with a range of 4-12 hr. The female students slept daily for an average hour of 7.7 hr (± 1.2) with a range of 5-10 hr whereas that of male students was 7.2 hr (1.5) with a range of 4-12 hr. Though the sleep times in the present study had a wide range, still non-significant relation was observed with depression level. Similar result was also observed by Tsuno et al 2005 for a group of students.

CONCLUSION

Thus, from the above study it could be concluded that though a large number of students from the urban areas were depressed but most of them were mildly depressed followed by a large section who were not depressed. The female students were more depressed than the male students. There was no significant correlation in between Depression score and Sleeping hour. Thus, it could be concluded that sleep did not have any impact on depression and vice-versa or may be the fluctuation symptoms was typically person specific which had nullified the significant correlation.

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Depression trait in college students and its relation with sleep

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Conflict of Interest

The author declared no conflict of interest.

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