



Prevalence and Correlates of Depression among College going students of District Amritsar, India

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Available online at: www.isca.in, www.isca.me

Received 11th October 2014, revised 10th November 2014, accepted 17th November 2014

Abstract

Depression describes wide range of emotional lows from mere sadness to a pathological suicidal state. It can affect all ages, communities and race. The incidence of depressive symptoms has been increasing among college students. We undertook this study to determine the prevalence and correlates of depression among college going students of District Amritsar, Punjab. In a cross-sectional study, 200 subjects aged 18-24 years were studied from January 2014 to June 2014 in various educational institutes of district Amritsar. Demographic history, various risk factors and prevalence of depression were assessed using patient health questionnaire (PHQ-9). The relevant data was collected and analyzed. The overall prevalence of depression among college going students was found to be 16.5%. Among medical and non-medical students, it was 11% and 22% respectively and Mean age of the subjects was 20.84 ± 1.62 . Out of all studied subjects 81(40.5%) were male and 119(59.5%) were female. All the subjects were unmarried (100%), majority of them were urban residents (77.5%), from nuclear family (79.5%), belongs to Hindu religion (57%) and of middle socio-economic status (67%). Family history of chronic physical disease and family history of depression were present in 14.5 and 13.5 per cent subjects, respectively. Family related and academic factors were the common risk factors for depression among students. More than one third subjects with depression were not satisfied with their current stream and perceived their parents not understanding. In view of these factors, there is a need to focus upon some aspects of parenting and education counseling among students to decrease the prevalence of depression among youth.

Keywords: Depression, college going students, prevalence, correlates.

Introduction

Human beings live in a constant socio cultural evolution. Modern civilization, technological complexity and rapidly changing social values contribute to changing pattern of health and disease in the society. Disease pattern has been shifted from communicable to non-communicable diseases. Gradually changing life style especially in countries like India, which is on the part of westernization, changing social support, changing relationships and family bonding could be factors contributing to this change.

Psychological and sociological factors play an important role in determining the well-being and quality of life. So any kind of disharmonizing factor like stress, loss, separation and other stressful life events can lead to disease prevalence. No other disorders are as common and impairing, have such an early onset, and affect such a large population of the whole life course as mental disorders. Out of this, Depression is one of the most important mental disorders. Depression worldwide is a major cause of morbidity commonly associated with a decline in social, occupational and interpersonal functioning¹.

Depressive disorders cause a very high rate of diseases' burden now-a-days. It is a significant contributor to global burden of

disease and affects people in all communities across the world. Today, depression is estimated to affect 350 million people². It is estimated that by the year 2020 if current trends for demographic and epidemiological transition continues, the burden of depression will increase to 5.7% of the total burden of the disease and it would be the second leading cause of disability adjusted life years (DALYs), second only to ischemic heart disease and by 2030, it is expected to be the largest contributor to disease burden^{3,4}. Life time prevalence rates in most of the countries falling somewhere between 8 to 12%⁵. In South Asia, 11% of Disability Adjusted Life years and 27% of Years Lived with Disability are attributed to neuro-psychiatric disease⁶. Depression is the single most important neuro-psychiatric contributors to years lived with disability⁷. In India, studies among college students found prevalence of depression ranging from 21.5% to 71.25%⁸⁻¹⁰. In Punjab, prevalence of depression among college students was found to be 32.6%¹¹.

Depression can affect all ages, communities or race. Young people in their transition to adulthood particularly suffer from depression, since late adolescence and early adulthood are the stages of life devoted to making major choices in multiple fields of their life. The challenges include exploring or developing their identity e.g. making career choices, navigating the transition from a state of full dependence to a state of semi

dependence on their parents, creating social relationships in a different environment.

A relationship clearly exists between parenting style and a child's ability to adjust to and meet academic, emotional and social challenges. Parenting style is related to a child's ability to successfully adjust to college/university culture and demands. Authoritative parenting, parental care and parental monitoring could be the risk factors for depression. Harsh punishment or authoritarian decision-making may cause the young ones to feel low and depressed.

At the college level, academic pressures are increasing day by day and at each successive level. Students are adjusting emotionally to complex life changes. The challenges of colleges, leaving home for the first time, learning to live independently, forming new relationships, and irregular sleep could be the risk factors for students and depression itself is proven risk factor for absenteeism, educational under achievement and substance abuse¹². Their efforts to fit into the new environment of college, to maintain good grades along with future planning often causes anxiety for a lot of students. Intensive use of information and communication and communication technology i.e. computers and mobile phones also contribute as risk factor for depression¹³.

Depression and other mental disorders seem to be under detected and under treated among young people. If not detected early, it presents a significant risk factor for suicide¹⁴. Recognizing depression as early as possible could be a critical step to reducing the prevalence of depression among young individuals, managing depression more effectively and preventing negative outcomes.

Most studies on depression have focused on adolescent. Prevalence of depressive symptoms in young adults is not well established. Few studies have included young adults but each has its own limitations, ranging from to study certain ethnic group to varied indicators of depression. Besides, most of the studies have done among medical students of various medical colleges in India and outside and comparison is usually done among them only. Hence, the objectives of this study was to find the prevalence of depression among college going students of various educational institutes of district Amritsar and to determine the various factors contributing to development of depression among depressed students as compare to those who are not depressed.

Material and Methods

This was a cross-sectional study using random sampling conducted from January 2014 to June 2014 in various educational institutes of district Amritsar, Punjab involving 200 subjects. For this, list of medical and engineering colleges of district Amritsar was procured. Out of this list, one college from each of these two categories was selected randomly by lottery

method. The study protocol was approved by Institutes Ethics Committee. Prior permission from the Principal/Head of institution of the participant colleges was taken. The purpose of the study was explained to the participants and informed written consent was obtained from each. Sample from these colleges was taken from age group 18-24 years.

Detailed history regarding age, gender, religion, caste, education, stream was recorded. History regarding personal habits, dietary preference, smoking, alcohol or any other drug consumption was also recorded. Patient health questionnaire (PHQ-9) was used to assess the prevalence of depression. The socio-economic status (SES) scale as described by Kuppu swamy which takes into account the education of the head of the family, occupation of the head of the family, and monthly income of the family was followed.

Statistical analysis: Statistical analyses were performed using the Statistical Package for the Social Science (SPSS) Version 15. Descriptive analyses were computed in terms of mean and standard deviation for continuous variables and frequency with percentage for nominal variables. Pearson's chi-square, chi-square with yate's correction and Fischer Exact value was used to compare categorical variables.

Results and Discussion

The mean age of the study sample was 20.84 ± 1.6 years (range: 18-24 years). Out of all studied subjects 81(40.5%) were male and 119(59.5%) were female. All the subjects were unmarried (100%), majority of them were urban residents (77.5%), from nuclear family (79.5%), belongs to Hindu religion (57%) and of middle socio-economic status (67%) table-1. The studied subjects were divided into two groups using patient health questionnaire (PHQ-9), one without depression (n=167) and another with depression (n=33). No significant differences between the two groups were observed in case of presence of friend circle, satisfaction with friendship, parents' over protectiveness and family history of chronic physical illness/disability. However, history of break up with close friend/ special friend (42.4%) parental conflicts (36.4%) and family history of depression (24.2%) were significantly higher among group with depression as compare to other one. Group with depression perceived their parents significantly less understanding and less supportive as compare to non-depressed group table-2. The prevalence of depression is significantly higher among engineering group (22%) as compare to medical group (11%). There is no significant difference among both groups regarding satisfaction with grades/ marks and history of any ragging in the college. However, Group without depression is significantly more satisfied with their current stream (85%) and pursuing stream of their choice (86.8%) table-3. Factors related to internet use and depression presented in table-4 which shows that there is no significant difference related to internet use, its unavailability, friend's activities on social networking sites among group with depression and non- depressed one.

Table-1
Socio demographic Profile

Variables	Group with depression (N=33) Frequency (%)	Group without depression (N=167) Frequency (%)
Religion		
Hinduism	19 (57.6)	95 (56.9)
Sikhism	11 (33.3)	69 (41.3)
Others	3(9.1)	3 (1.8)
Locality		
Rural	4 (12.1)	27 (16.2)
Urban	26 (78.8)	129 (77.2)
Suburban	3 (9.1)	11 (6.6)
Type of Family		
Nuclear	25 (75.8)	134 (80.2)
Joint/ Extended	8 (24.2)	33 (19.8)
Sex		
Male	14 (42.4)	67 (40.1)
Female	19 (57.6)	100 (59.9)
Kuppuswamy socioeconomic class		
Upper lower	0 (0)	1 (0.6)
Lower middle	3 (9.1)	7 (4.2)
Upper middle	18 (54.5)	106 (63.5)
Upper class	12 (36.4)	53 (31.7)

Table-2
Factors related to friends and family

Variables	Group with depression (N=33) Frequency (%)	Group without depression (N=167) Frequency (%)	Chi-square value
Presence of friend circle	32 (97)	161 (96.4)	.000
Satisfaction with friendship			
Fully satisfied	6 (18.2)	55 (32.9)	6.478
Partially satisfied	14 (42.4)	77 (46.1)	
Partially unsatisfied	12 (36.4)	29 (17.4)	
Fully Unsatisfied	1 (3)	6 (3.6)	
H/o break up with close/special friend	14 (42.4)	31 (18.6)	8.997**
Family perceived supportive	30 (90.9)	165 (98.2)	4.177*
Parents perceived understanding	22 (66.7)	156 (93.4)	20.135***
Parents perceived overprotective	14 (42.4)	82 (49.1)	.492
Presence of conflicts between parents	12 (36.4)	11 (6.6)	24.006***
Family history of chronic physical disease	5 (15.2)	24 (14.4)	.014
Family history of depression	8 (24.2)	19 (11.4)	3.906*

***p <0.001; ** p <0.01; *p <0.05; # Chi-Square with Yate’s Correction value; ## Fisher Exact value

Table-3
Academic factors

Variables	Group with depression (N=33) Frequency (%)	Group without depression (N=167) Frequency (%)	Chi-square value
Stream			
Medical	11(33.3)	89 (53.3)	4.391*
Engineering	22(66.7)	78 (46.7)	
Pursuing stream of their choice	22(66.7)	145 (86.8)	8.128**
Satisfied with current stream	20(60.6)	142 (85.0)	10.680**
Satisfied with grades/marks	4 (12.1)	91 (54.5)	19.836
History of ragging	4 (12.1)	16 (9.6)	.016#

***p <0.001; ** p <0.01; *p <0.05; # Chi-Square with Yate’s Correction value; ## Fisher Exact value

Table-4
Factors related to internet use

Variables	Group with depression (N=33) Frequency (%)	Group without depression (N=167) Frequency (%)	Chi-square value
Access to internet	31(93.9)	161(96.4)	.031#
Gets upset on Internet unavailability	19(57.6)	95(56.9)	.005
Gets upset due to some of the activities of friends on social networking sites	5(15.2)	22(13.2)	.092

***p <0.001; ** p <0.01; *p <0.05; # Chi-Square with Yate’s Correction value; ## Fisher Exact value

Discussion: A Number of studies have been done previously to determine the prevalence of depression but in most of the studies they took consideration of overall population. Research has done to study prevalence of depression in specific population group but very fewer studies have been done among youth and specifically to certain educational stream. In our study we have taken college going students of different streams to assess any difference in prevalence of depression and risk factors contributing specifically to students of particular field. The prevalence of depression in our study was found to be 16.5%. This was comparable to the studies previously done as it was 15.1% among urban south Indian population and by Eisenberg et al in Michigan where the prevalence rate was 15.6%^{15,16}. Depressive symptom among medical students in our study were found in 11% unlikely in the study done by Singh A et al, in Bareilly and Khan MS et al, in Pakistan^{17,18}. Among these studies, diverse culture, the data collection tools, setting of survey, age group and timing may also contribute for the wide range of prevalence rates. Socio- demographic profile in our study like sex and type of family distribution were similar as other studies done by Eisenberg et al, in Michigan and also several epidemiological studies have shown that women have higher depression rates than men¹⁶. In our study also, women had higher prevalence rate of depression, which is consistent with earlier studies. Female sex is found to be risk factor for depression¹⁹. Another study done in Bangalore among young adults attending college, men were found to be more depressed (25%) than women (18%)²⁰. In India, the joint family system was in vogue till recently. This provided social security to younger individuals. The breakdown of the joint family and the

emergence of the nuclear family could explain the occurrence of depression at younger ages due to reduced family support. Problematic relationships and parental conflicts are associated with greater depression similar to previous studies¹⁰. Depressed individuals found their parents less supportive similar to other studies by Maccoby and Martin, Ingersoll^{21,22}. Unlike some studies, there was not significant relation with internet use among depressed group as compare to non- depressed¹³. Study done upon the students of City Raipur also found no statistical significant relationship between internet usage and depression similar to our study²³.

Limitation: In this present study, we focused upon depression only. Other co-morbid physical and mental health problems were not taken into consideration and data on the psychological status of students before entering the college was not assessed.

Conclusion

Depression is highly prevalent in college going youth. Prevalence of depression is higher among engineering students as compare to medical. Students, whose families are not supportive, do not understand their problems and having parental conflicts are more prone to develop depression. Not pursuing a stream of own choice and dissatisfaction with current stream predisposes to depression. Family history of depression and recent history of any break up with special friend/close friend: significant risk factors for depression. Certain factors like parenting, education counselling should be focused upon among college students to decrease the prevalence of depression among youth. New policy and interventions must be started

targeting to specific group according to their requirement. Special attention to family relationships and letting one pursue

stream of his/her own choice should be given.

References

1. Onya O.N., Stanley C.N. and Stanley P.C., Risk factors for depressive illness among elderly GOPD attendees at UPTH, *Int.Res.J.Medical Sci*, **1(6)**, 1-9, (2013)
2. Marcus M, Taghi Y.M., Van O.M., Chisholm D. and Sexsena S., Depression : A global public health concern. [Internet]. [cited 2013 Nov 15]; Available from: URL://http://www.who.int/mental_health/management/depression/who_paper_depression_wfmh_2012.pdf, (2012)
3. Grover S, Dutt A and Avasthi A., An overview of Indian research in depression, *Indian J. Psychiatry*, **52 (1)**, 178-188 (2010)
4. World Health Organisation, Global Burden of Disease (2008): 2004 update. Geneva: World Health Organization. [Internet]. [cited 2013Nov5]; Available from: http://www.who.int/healthinfo/global_burden_diseases/GBD_report_2004update_full.pdf, (2013)
5. Andrale L., Caraveo A.J.J., Berqlund P., Bijl R.V., Graph D.R and Vollebergh W et al., The epidemiology of major depressive episodes : Results from the International Consortium of Psychiatric Epidemiology (ICPE) Surveys, *Int J Methods Psychiatr Res*, **12(1)**, 3-21 (2003)
6. Patel V, Sumathipala A, Khan M, Thapa S and Rahman O, South Asian Region, Chapter for Textbook of Cultural Psychiatry (eds Bhui and Bhugra), (2006)
7. Patel V, Flisher A.J, Hetrick S, McGorry P, Mental health of young people: a global public-health challenge, *Lancet*, **369(9569)**, 1302-13 (2007)
8. Sidana S, Kishore J, Ghosh V, Gulati D, Jiloha R.C. and Anand T., Prevalence of depression in students of a medical college in New Delhi : A cross-sectional Study, *MJA*, **5(5)**, 247-250 (2012)
9. Kumar G.S., Jain A and Hegde S, Prevalence of depression and its associated factors using Beck depression inventory among students of a medical college in Karnataka, *Indian J Psychiatry*, **(54)**, 223-6 (2012)
10. Nagendra K, Gouli C, Kalappanavar N.K and Kumar V, Prevalence and association of depression and suicidal tendency among adolescent students, *ijbar*, **09**, (2012)
11. Padda P, Singh G, Singh L and Chawla N., An epidemiological study of depression among college students in District Faridkot, Punjab. [Internet]. [cited 2013 nov 23] Available from: [http://www.ruralhealthgoa](http://www.ruralhealthgoa.org/Document/event/11Dec.%20Black%20Box/Mental%20Health%20&%20Disaster%20Black%20Box/Dr.%20Preeti%20Padda.pdf) 2012.
12. Verma N., Jain M. and Roy P., Assessment of magnitude and grades of depression among adolescents in Raipur city, India, *Int.Res.J.Medical Sci*, **2(5)**, 10-13, (2014)
13. Saluja G, Lachan R, Peter C, Mary D., Prevalence of and risk factors for depressive symptoms among young adolescent, [Internet], [cited 2013oct 24], Available from : <http://archpedi.jamanetwork.com>, (2013)
14. Onya O.N., Stanley C.N. and Stanley P.C., Risk factors for depressive illness among elderly GOPD attendees at UPTH, *Int.Res.J.Medical Sci*, **1(6)**, 1-9 (2013)
15. Poongothai S., Pradeepa R, Ganesan A. and Mohan V., Prevalence of Depression in a Large Urban South Indian Population, The Chennai Urban Rural Epidemiology Study (Cures-70), *PLoS ONE*, **4(9)**, e7185 (2009)
16. Eisenberg D., Gollust S.E., Golberstein E. and Hefner J.L., Prevalence and Correlates of Depression, Anxiety and Suicidality Among University Students, *Am J Orthopsych*, **(77)**, 534-542 (2007)
17. Singh A., Lal A. and S., Prevalence of Depression Among Medical Students of a Private Medical College in India, *OJHAS*, **4(9)**, (2010)
18. Khan M.S., Mahmood S, Badshah A, Ali S.U. and Jamal Y., Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan, *J Pak Med Assoc*, **56(12)**, 583-6 (2006)
19. Onya O.N., Stanley C.N. and Stanley P.C., Risk factors for depressive illness among elderly GOPD attendees at UPTH, *Int. Res. J. Medical Sci*, **1(6)**, 1-9 (2013)
20. Parikh R.M., Chakravorthy N., Sonawalla S.B., Mehrah G. and Dracass S.et al, Depression in college students in Bombay, students in Bombay, Program and abstracts of the American Psychiatric Association 2001 Annual Meeting, May 5-10, New Orleans, Louisiana, Symposium 70, (2001)
21. Maccoby E.E. and Martin J.A., Socialization in the context of family : Parent- child interaction, in P.H. Mussen, Handbook of child psychology, **(4)** 1-101 (1983)
22. Ingersoll B. and Goldstein S., Lonely, Sad and Angry : Aparents guide to depression in children and adolescent, (1995)
23. Verma N., Jain M. and Roy P., Assessment of magnitude and grades of depression among adolescents in Raipur city, India, *Int. Res. J. Medical Sci*, **2(5)**, 10-13 (2014)