

Original Article

DEPRESSION AND SUICIDAL RISK AMONG FEMALE HOSTELLERS

Preiti Modi¹, Krishan Kumar², Rajeev Dogra³

¹M.Phil Clinical Psychology Trainee, ²Asst Professor, Department of Clinical Psychology, ³Professor & Head Department of Clinical Psychology, Institute of Mental Health, PGIMS Rohtak Haryana.

Abstract

Background: Depression is one of the four major diseases in the world and is the most common cause of disability from diseases. Students are a special group of people that are enduring a critical transitory period and can be one of the most stressful times in a person's life. Trying to fit in, maintain good grades, plan for the future, and be away from home often causes anxiety for a lot of students. As a reaction to this stress, some students get depressed. Previous studies reported that depression in female students is noted around the world and the prevalence seems to be increasing. Suicide is the third leading cause of death among 15-to-24 year olds. College campuses represent an important point of intervention for the prevention of suicide for many young adults (Muehlenkamp, Marrone, Gray & Brown, 2009). Dogra, Basu and Das (2008) found that except stressful life events, other predictor variables, i.e., personality, presence of meaning in life, reasons for living, contribute significantly to suicidal ideation. **Material & Method:** Total 40 students have been taken for the present study. Tools used: PHQ-9 (Patient health questionnaire Developed by Drs. Robert L. Spitzer et al 1999) was administered on students to assess depression. A self constructed Risk assessment behavior -9 was administered to assess the suicide risk behavior in students. **Results:** Results revealed that about 10% of the students had high suicidal ideation. **Conclusion:** College campuses and hostels represent an important point of intervention for the prevention of suicide for many young adults.

Keywords: Depression, Stress, Suicide, Suicidal ideation,

Corresponding author Dr Krishan Kumar, Asst Professor Dept of Clinical Psychology Institute of Mental Health, PGIMS Rohtak Haryana

This article may be cited as: Modi P, Kumar K and Dogra R DEPRESSION AND SUICIDAL RISK AMONG FEMALE HOSTELLERS .HECS Int J Com Health and Med Res 2017;3(3):14-25

INTRODUCTION

The aim of the study was to investigate depression and suicidal risk in female staying in hostel. Depression is one of the four major diseases in the world and is the most common cause of disability from diseases. Depression among university students is extremely prevalent and widespread problem across the country [1-3]. University students are a special group of people that are enduring a critical transitory period in which they are going from adolescence to adulthood and can be one of the most stressful times in a person's life. Trying to fit in, maintain good grades, plan for the future, and be away from home often causes anxiety for a lot of students [4]. As a reaction to this stress, some students get depressed. They may cry all of the time, skip classes, or isolate themselves without

realizing they are depressed. Previous studies reported that depression in university students is noted around the world [5-7] and the prevalence seems to be increasing [8]. Depression in this population has been shown to be associated with increased risk of suicidal behaviour, homicidal ideation, tobacco use and other substance abuse into adulthood. It has been noted that the majority of suicides in India are by those below the age of 30 years and also that around 90% of those who die by suicide have a mental disorder. Increasing concern has been expressed about the mental health of students in higher education.. The World Health Report has quoted India as having a substantial prevalence of childhood and adolescent mental health disorders. The *American Journal of Health Behaviour* identified the management of

new choices concerning employment, interpersonal relationships, sexual behaviours, and living arrangements to be common potential stressors for students.

SUICIDE

Suicide is the third leading cause of death among 15-to-24 year olds¹⁵ and the second leading cause of death among college students. National Crime Bureau (2005) also report majority of suicides (37.8%) in India are by those below the age of 30 years. Dogra, Basu and Das (2008) found that except stressful life events, other predictor variables, i.e., personality, presence of meaning in life, reasons for living, contribute significantly to suicidal ideation. The reasons for greater female suicide completion in India may be socio-cultural. The sociological theory of suicide emphasizes social integration, a theme reflected in John Donne's "No Man is an Island". People who are well integrated with their families and community have a good support system during crises, protecting them against suicide. Risk factors related to the family include parenting style, family history of mental illness and suicide, and physical and sexual abuse in childhood. India has witnessed a change in family structure during recent decades, with more people moving out of joint and extended families into nuclear family structures. Varying results in research may tap a secular trend. The majority of suicide attempters were from nuclear families^{25,26} possibly reflecting the role of social integration, though an earlier study shows that more suicide attempters come from joint families.²⁷ the suicide rate is generally reported to be higher in urban areas because of a variety of stressors related to living and working in cities. The effect of this change on suicide rate has not been systematically studied. Nuran Bayram & Nazan Bilgel⁴⁰ examined the prevalence of depression, anxiety and stress among a group of Turkish university students. Depression Anxiety and Stress Scale (DASS-42) completed anonymously in the students' respective classrooms by 1,617 students. Depression, anxiety and stress levels of moderate severity or above were found in 27.1, 47.1 and 27% of respondents, respectively. Anxiety and stress scores were higher among female students. First- and second-year students had higher depression, anxiety and stress scores than the others. Students who were satisfied with their education had lower depression, anxiety and stress scores than those who were not satisfied. The high prevalence of depression, anxiety and stress symptoms among university students is

alarming. This shows the need for primary and secondary prevention measures, with the development of adequate and appropriate support services for this group. Johanna Bernhardsdóttir⁴¹ studied Psychological distress among university female students and their need for mental health services. Psychological distress was measured with the Symptom Checklist-90 Depression and Anxiety subscales. The prevalence of above-threshold depression and anxiety among the university women students was 22.5% and 21.2% respectively. Results showed that the mean depression score was significantly lower among the students than among women of the same age in the general population. Only 1.4% of the distressed students received mental help care from nurses. The high proportion of distressed female students not receiving professional help is a challenge to the primary health-care system and the nursing profession. This also raises questions about the adequacy of the current system of health-care delivery and the potential advantages of on-campus health services, in closer proximity to the students. Kurt D. Michael⁴² examined Depression Among College Students. 182 undergraduates, a substantial proportion of the students in this sample reported significant symptoms of depression, yet only a minute number of them had ever sought treatment for their ailments. Further, the college men in this study appeared to be suffering to a greater extent than would be predicted based upon past epidemiological studies. Ishita Chatterjee and Jayanti Basu⁴³ investigated Perceived Causes of Suicide, Reasons for Living and Suicidal Ideation among Students. Results revealed that about 12.5% of the students had high suicidal ideation. Reasons for living (total score) has been found to have negative but significant relation to suicidal thought. Concern for future and moral objections is found to be strongly and negatively related to suicidal thought. This study reveals that a strong and positive reasons for living is useful in preventing suicide. Moreover the findings are relevant for therapist and counsellors in assessing suicidal risks. Dr S K Joshi⁴⁴ studied Suicide among medical professionals in India. Incidence of suicide in India (as per a Lancet study) is the highest in the world. Twenty per cent of the total suicides of the world occur in India. In the last two decades, the incidence increased from 7.9 to 10.3 per 100,000 population. By 2010 the figure had reached 187,000 (with 40% adolescents). It is increasing further and threatens to become the No.1 killer in India. Aim of the

study To investigate depression and suicidal risk in female staying in hostel.

MATERIAL AND METHOD

SAMPLE:

In order to obtain representative sample, female hostellers were taken. A total of 40 participants in age group of 17-35 years participated in the study. Type of sampling performed was purposive sampling.

DESIGN:

The aim of the study is to examine the depression and suicide risk in female hostellers. The total sample of the study is 40 females. Females included in the study belonged to different stream of education staying in university hostel. Patient health Questionnaire for depression and risk assessment of behaviour for suicidal risk will be used to measure the respective levels in the females. Both the variables will then be correlated to identify a relationship between depression and suicidal risk in female hostellers. It is an exploratory type of research

TOOLS:

1. Socio-Demographic Details:

A socio-demographic sheet was prepared. Which included course, religion, type of family, birth order, substance use in self and family, history of medical and psychiatric illness, type of stress experienced and associated questions.

2. PHQ: patient health questionnaire:

To assess depression in female hostellers PHQ-9 was used. Its is devised by Kroenke K, Spitzer RL, Williams JB. The patient health questionnaire is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders. The PHQ-9 is the depression module, which scores each of the nine DSM-IV criteria as "0" (not at all) to "3" (nearly every day). The test-retest reliability values of is PHQ-9 is 0.873. The scores of PHQ-9 (r=0.790) is significantly associated with that of BDI. PHQ-9 had an optimal cut off score of 11, which indicated a sensitivity of 0.89 and a specificity of 0.97.

Risk assessment behaviour:

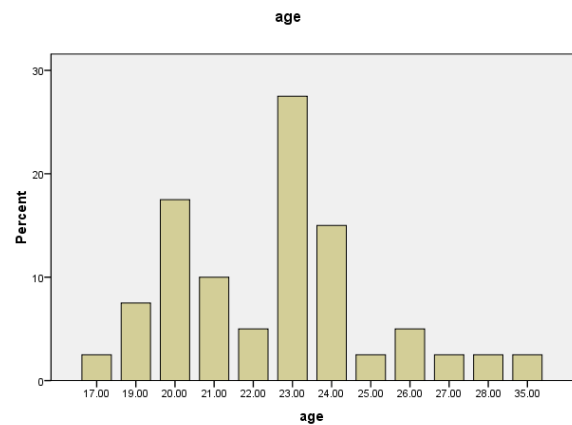
To assess the suicidal risk, a self-constructed questionnaire was used. It is a 9-item questionnaire which is analyzed qualitatively.

PROCEDURE

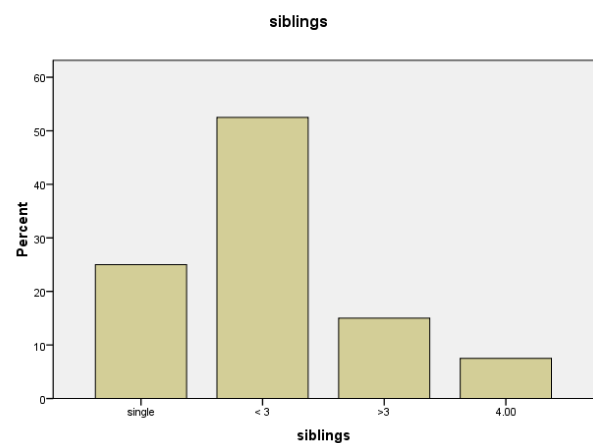
40 females living in university hostel of Rohtak were asked to fill the socio-demographic sheet, PHQ-9 and risk assessment behaviour questionnaire. These responses were then analysed and interpreted.

RESULTS

Table.1 shows demographic details of the group. In this group Mean age is 22±3(17years to 35 years). All the subjects were females i.e. 100%. In this group maximum sample is 52.5% were in post graduation and 47.5% in undergraduate course. 5% of the group belonged to lower socio-economic status, 92.5% to middle socio economic status, and 2.5% belonged to upper-middle class.



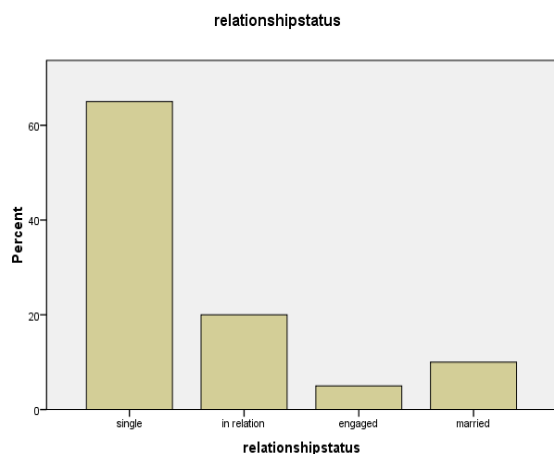
Graph 1: Age of females.



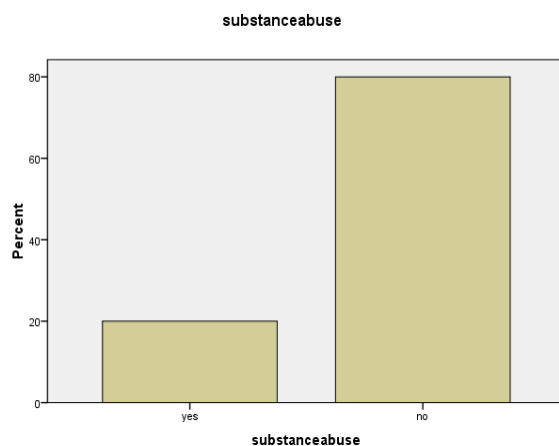
Graph 2: Total siblings

92.5% was Hindu, 2.5% were Muslim and 5% were Sikh. 67.5% samples were living in nuclear families and 32.5% were living in joint family. 25% of the samples was single children, 52% had 3

siblings, 15% were three siblings and 7% had more than three siblings. 57% of the sample was eldest children, 30% were middle children, and 12.5% were youngest. In the present group, 65% of the sample's relationship status was single, 20% were in relationship, 5% were engaged and 10% were married. There was no history of past medical or psychiatric illness in any of the samples. 20% of the samples were into substance use and 80% did not indulge in substance use. 40% of sample's family had members in substance use 60% did not have any member in substance use.



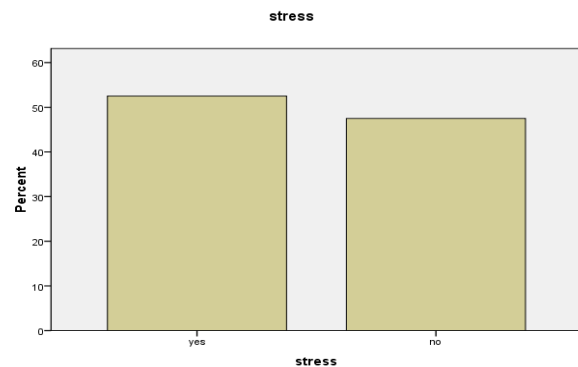
Graph.3 relationship status



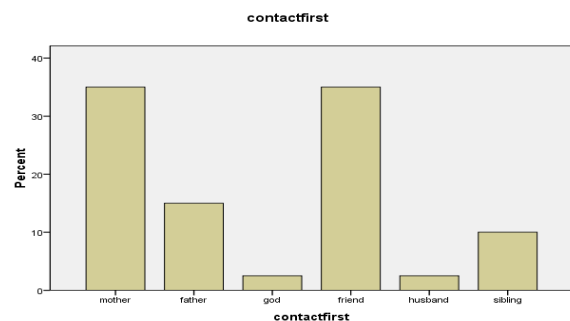
Graph.4. Substance Abuse.

52% percent of the sample experienced stress with 22.5% having academic stress, 12.5% stress related to family, 7.5% had relationship stress, 2.5% had health related stress and 10% had other stress like, travelling, separation from child. 47.5% did not experience any stress. In times of stress, 35% of the group first contacted Mother, 35% contacted

friends, 15% contacted Father, 10% contacted siblings (brother or sister), and 2.5% contacted God or Husband.



Graph 5: Stress experienced

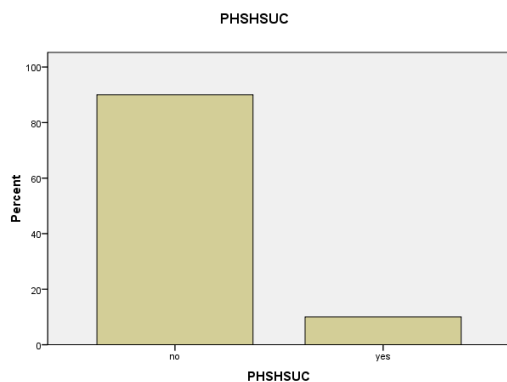


Graph 6: Contact First in times of stress

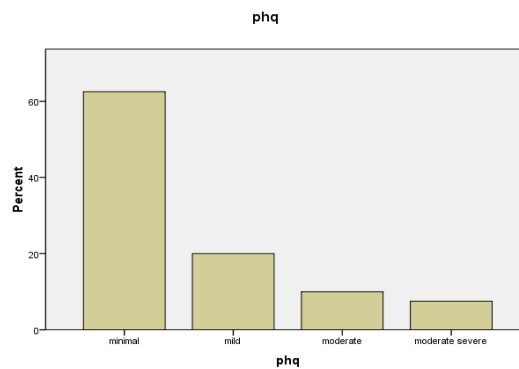
90% of the sample had no history of suicide attempt or self harm. Whereas,10% had attempted self harm or suicide in the past. 97.5% did not have any history of suicide in family. 2.5% had history of suicide attempt in family. 62.5% of the group did not feel that life is too hard on them whereas, 37.5% felt life is too hard on them. 65% had not thought to harm themselves. 35% did think to harm themselves and also thought what they would do. 95% of the group has not taken any action and 5% has taken action to suicide. On patient health questionnaire that assesses depression and suicide intent or self harm, 62.5% had minimal depression. 20% had mild depression, 10% had moderate and 7.5 had moderately severe.

DISCUSSION

The aim of the study was to investigate depression and suicidal risk in female staying in hostel. The



Graph 7. past history of self harm/suicide



Graph 8: PHQ

Table 1: Socio Demographic Data

Variable	N (%)
Gender	
Female	40 100%
Education	
Graduate	19 (47.5)
PG	21(52.5)
Socioeconomic status	
Low	2 (5)
middle	37 (92.5)
upper	1(2.5)
Religion	
Hindu	37(92.5)
Muslim	1(2.5)
Sikh	2(5)
Family Type	
Nuclear	27(67.5)
Joint	13(32.5)
Siblings	
Single	10(25)
<3	21(52.5)
>3	6(15)
4	3(7)
Birth order	
Eldest	23(57)
Elder	12(30)
youngest	5(12.5)
Relationship Status	
Single	26(65)

Married	4(10)
engaged	2(5)
In relationship	8(20)
History of Medical Illness	
No	40(100)
History of substance abuse	
Yes	8(20)
no	32(80)
History of Substance abuse in family	
Yes	16(40)
no	24(60)
History of Psychiatric Illness	
No	40(100)
Presence of stress	
Yes	21(52.5)
No	19(47.5)
Table 2 clinical database	
Type of stress	
Academic	9(22.5)
Health	1(2.5)
Relationship	3(7.5)
Family	5(12.5)
Other stress	4(10)
No stress	18(45)
Contact first	
Mother	14(35)
Father	6(15)
Siblings	4(10)
Friend	14(35)
Husband	1(2.5)
God	1(2.5)
Past history of self harm and suicide	
No	36(90)
yes	4(10)
Family history of suicide	
No	39(97.5)
yes	1(2.5)
Life is too hard	
No	25(62.5)
Yes	15(37.5)
Harm yourself	

No	26(65)
Yes	14(35)
Thought what might do	
No	26(65)
Yes	14(35)
Action	
No	38(95)
Yes	2(5)
Self harm	
No	32(80)
Yes	8(20)
Attempts	
No	36(90)
Yes	4(10)
What did you do	
No	40(100)
Phq	
Minimal	25(62.5)
Mild	8(20)
Moderate	4(10)
Moderately severe	3(7.5)
Clinical attention	0

female hostellers were of varied educational qualification like undergraduate medical and non-medical fields (political science, commerce) and Nursing but most of them belong to medical profession. Other study like Arif & Khan²⁰¹⁶ also found the same group in (evaluation of depression among medical and non-medical students) study⁵⁰. In the present study most of the students belongs to middle socio economic status which has been concern with the other study like Bukhari & Khanam 2015 (prevalence of depression in university students belonging to different socioeconomic status)⁵¹. The clinical data reflects that more females experienced stress. They have reported a number of events that evoked stress. The events were related to environmental, interpersonal, and intrapersonal as well as academic, health and career issues. Most experienced academic stress elaborating as, pressure to perform well and fear of failure, massive content, laborious and exhausting perusal. Relationship issues with family members, partner were also reported by females. Other types of stress experienced by females were, travelling,

uncertainty pertaining entrances and admission, separation from child, health concerns of family members. In times of stress most of them first contact their Mother or friend. Followed by father, sibling, husband and even God. Some degree of stress is helpful for individuals in meeting the new challenges, but persistently high and unrelieved stress can lead to psychological, physical and behavioural ill health. Many studies have reported substance abuse and alcoholism among medical students and junior doctors under stress⁵⁵. In the present study 20% of females indulge in substance use. It cannot be ruled out in the medical community as access to the drugs is relatively very easy. Medical school curriculum are very tough, depressive, and non enjoyable and require high levels of concentration and time for study. Continuous assessment and examination contributed to stress among medical students and is considered as a risk factor for substance use and development of depression among medical students⁵⁶. In the clinical depression scale, most females experienced minimal to mild depression (82%). Yet a small set of females did experience

moderate to severe depression (18%). A study was conducted among the medical students in Saudi Arabia to find out depression among their students. Overall the prevalence of anxiety and depression in the females is higher (60.6%) than the males (44.4%)⁵². No suicidal ideation was found in any response from both males and females. Other studies similar to the present study were conducted in the medical college of Lahore to find out depression among female medical students. The results showed that Overall, 43.7% of students reported anxiety and 19.5% depression⁵³. A Study was conducted among first year medical students of university of Zimbabwe. According to their study a total of 109 out of 123 first year medical students were used in the study. The results showed with an average of about 35.5% normal and an average of 64.5% of the students being at various levels of stress and or depression⁵⁴. Depression is frequently associated with suicidal ideation and suicidal behaviour in adolescents (Brand et al., 1994; Brent et al., 1999). The depression-suicidal ideation link has also been documented in research studies conducted with Asian adolescents. In a sample of more than 9,000 Korean high school students, Juon, Nam and Ensminger (1994) found depression to be the strongest and most consistent predictor of suicidal behaviours; students who had high scores on depression were 5.31 times more likely to report suicidal ideas and 3.19 times more likely to attempt suicide, as compared to those with low scores. Consistent with this finding, in the present study small percentage of the sample have also made self harm or tried to commit suicide. 20% had thought of self harm and 10% had made attempts. Reasons could be varying from Academic, Interpersonal, family or financial issues. McConnell and Jenkin (2001) who found conflict with boyfriend/girlfriend as major cause of suicide. Conflict with parents was also found to be a less significant nevertheless contributing factor. Here also the role of interconnected Indian culture, where parents play a significant role, in the life of U.G. college students (Chatterjee, 2008) is confirmed. Academic problems have always been a cause of suicide for college students. Similar findings were reported by Bernard and Bernard (1982), Schotte and Clum (1982).⁴⁵ Most females did not feel life is too hard on them. This may suggest that they take life as it goes and are adjusted to ups and downs of life. Yet a significant proportion of females did feel life is too hard on them. The same proportion of population have had thought of harming themselves, thought of what

they might do to harm themselves and 5% of them have taken action. This clearly tells that some females tend to perceive umpteen amount of stress and have scarce resources and little capacity to deal with stress. In our study, 15% of the students reported feeling life was a burden, 6% of the students reported suicidal ideas and 10% reported self-harm. This prevalence is lower when compared with the figures of prevalence in other Indian studies, where prevalence ranging from 12% to 21.7% is reported⁴⁶. In a large study from Guyana, 18.4% of students considered suicide in the last one year⁴⁷. In another study from Nigeria, suicidal ideas were reported in 20% of the students, and suicidal attempt, in 12%.⁴⁸. Depression has a dramatic effect on one's personal life and also for the society, due to this many students has been drop out from school, loss of relationships, decreased ability to work with proper concentration, effectiveness, can lead to marital problems and finally tendency of suicide. They also have impaired ability to work effectively. Initial diagnosis and screening at the time of entering and identification of positive cases by a clinical psychiatrist can establish a base line data. For this we must need a monitoring prevalence of depression that will help in instituting intervention strategies⁵⁷. Committing suicide and depression are issues closely related with individual's mental health. Research done among college students show that suicidal ideation is not at a critical level. However, there is still tendency to think towards it based on the scores of respondents' answers⁵⁸. Moreover, it can be deduced that depression has a significant relationship with suicidal ideation. Therefore, in trying to carry out any form of intervention, depression should be given appropriate attention and should be prevented before it gets worse and eventually translated into suicidal actions⁵⁹.

CONCLUSION

The aim of the study was to investigate depression and suicidal risk in female staying in hostel. The clinical data reflects that more females experienced stress. They have reported a number of events that evoked stress. The events were related to environmental, interpersonal, and intrapersonal as well as academic, health and career issues. Other types of stress experienced by females were, travelling, uncertainty pertaining entrances and admission, separation from child, health concerns of family members. In the clinical depression scale, most females experienced minimal to mild depression. Yet a small set of females did

experience moderate to severe depression. Suicide ideation was present in 10% of females in the study. College campuses and hostels represent an important point of intervention for the prevention of suicide for many young adults.

REFERENCES

1. E. Ildar Abadi, M. Firouz Kouhi, S. Mazloum, and A. Navidian, "Prevalence of depression among students of Zabol Medical School, 2002," *Journal of Shahrekord University of Medical Sciences*, vol. 6, no. 2, pp. 15–21, 2004.
2. S. Abedini, A. Davachi, F. Sohbaee, M. Mahmoodi, and O. Safa, "Prevalence of depression in nursing students in Hormozgan University of Medical Sciences," *Hormozgan Medical Journal*, vol. 11, no. 2, pp. 139–145, 2007.
3. M. Frotani, "Depression in students of higher education centers," *Iranian Journal of Nursing Research*, vol. 18, no. 41-42, pp. 13–27, 2005.
4. J. L. Buchanan, "Prevention of depression in the college student population: a review of the literature," *Archives of Psychiatric Nursing*, vol. 26, no. 1, pp. 21–42, 2012.
5. T. Eller, A. Aluoja, V. Vasar, and M. Veldi, "Symptoms of anxiety and depression in Estonian medical students with sleep problems," *Depression and Anxiety*, vol. 23, no. 4, pp. 250–256, 2006.
6. A. K. Ibrahim, S. J. Kelly, and C. Glazebrook, "Reliability of a shortened version of the Zagazig Depression Scale and prevalence of depression in an Egyptian university student sample," *Comprehensive Psychiatry*, vol. 53, no. 5, pp. 638–647, 2012.
7. J. S. R. Mahmoud, R. T. Staten, L. A. Hall, and T. A. Lennie, "The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles," *Issues in Mental Health Nursing*, vol. 33, no. 3, pp. 149–156, 2012.
8. N. Reavley and A. F. Jorm, "Prevention and early intervention to improve mental health in higher education students: a review," *Early Intervention in Psychiatry*, vol. 4, no. 2, pp. 132–142, 2010.
9. Bansal CP, Bhawe SY. Stress in Adolescents and its Management. In: Bhawe SY, editor. *Bhawe's Textbook of Adolescent Medicine*. New Delhi: Jaypee Brothers Medical Publishers; 2006. pp. 844–53.
10. Arria AM, O'Grady KE, Caldeira KM, Vincent KB, Wilcox HC, Wish ED. Suicide ideation among college students: A multivariate analysis. *Arch Suicide Res*. 2009;13:230–46.
11. Sharifirad G, Marjani A, Abdolrahman C, Mostafa Q, Hossein S. Stress among Isfahan medical sciences students. *J Res Med Sci*. 2012;17:402–6.
12. Al-Dabal BK, Koura MR, Rasheed P, Al-Sowielem L, Makki SM. A comparative study of perceived stress among female medical and non-medical university students in Dammam, Saudi Arabia. *Sultan Qaboos Univ Med J*. 2010;10:231–40.
13. Al-Dubai SA, Al-Naggar RA, Alshagga MA, Rampal KG. Stress and coping strategies of students in a medical faculty in Malaysia. *Malays J Med Sci*. 2011;18:57–64
14. Supe AN. A study of stress in medical students at Seth G.S. Medical College. *J Postgrad Med*. 1998;44:1–6.
15. Anderson RN, Smith BL. Deaths: Leading causes for 2002. *National Vital Statistics Reports: From the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System*. 2005;53(17):1–89.
16. Pillai A, Andrews T, Patel V. Violence, psychological distress and the risk of suicidal behaviour in young people in India. *Int J Epidemiol*. 2009;38:459–69.
17. Gururaj G, Isaac MK. *Epidemiology of suicides in Bangalore*. Bangalore: National Institute of Mental Health and Neuro Sciences; 2001. Report No.: Publication No 43.

18. Banerjee G, Nandi DN, Nandi S, Sarkar S, Boral GC, Ghosh A. The vulnerability of Indian women to suicide a field-study. *Indian J Psychiatry*. 1990;32:305–8.
19. Gururaj G, Isaac MK, Subbakrishna DK, Ranjani R. Risk factors for completed suicides: A case-control study from Bangalore, India. *Inj Control Saf Promot*. 2004;11:183–91.
20. Kumar V. Poisoning deaths in married women. *J Clin Forensic Med*. 2004;11:2–5.
21. World Report on Violence and Health. Geneva: WHO; 2002. WHO.
22. Accidental Deaths and Suicides in India 2007. New Delhi: Ministry of Home Affairs, Government of India; 2009. National Crime Records Bureau.
23. Martin G, Waite S. Parental bonding and vulnerability to adolescent suicide. *Acta Psychiatr Scand*. 1994;89:246–54.
24. van Egmond M, Garnefski N, Jonker D, Kerkhof A. The relationship between sexual abuse and female suicidal behavior. *Crisis*. 1993;14:129–39.
25. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, et al. Risk factors associated with attempted suicide: A case control study. *Indian J Psychiatry*. 2004;46:33–8.
26. Latha KS, Bhat SM, D'Souza P. Suicide attempters in a general hospital unit in India: Their socio-demographic and clinical profile--emphasis on cross-cultural aspects. *Acta Psychiatr Scand*. 1996;94:26–30.
27. Adityanjee DR. Suicide attempts and suicides in India: Cross-cultural aspects. *Int J Soc Psychiatry*. 1986;32:64–73.
28. Accidental Deaths and Suicides in India. New Delhi: NCRB; 2000.
29. Rich AR, Bonner RL. Concurrent validity of a stress-vulnerability model of suicidal ideation and behavior: A follow-up study. *Suicide Life Threat Behav*. 1987;17:265–70.
30. Accidental Deaths and Suicides in India 2008. New Delhi: Ministry of Home Affairs, Government of India; 2010. National Crime Records Bureau.
31. Banerjee G, Nandi DN, Nandi S, Sarkar S, Boral GC, Ghosh A. The vulnerability of Indian women to suicide a field-study. *Indian J Psychiatry*. 1990;32:305–8.
32. Accidental Deaths and Suicides in India 2008. New Delhi: Ministry of Home Affairs, Government of India; 2010. National Crime Records Bureau.
33. Khan FA, Anand B, Devi MG, Murthy KK. Psychological autopsy of suicide-a cross-sectional study. *Indian J Psychiatry*. 2005;47:73–8.
34. Sharma RC. Attempted suicide in Himachal Pradesh. *Indian J Psychiatry*. 1998;40:50–4.
35. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, et al. Risk factors associated with attempted suicide: A case control study. *Indian J Psychiatry*. 2004;46:33–8.
36. Mohanty S, Sahu G, Mohanty MK, Patnaik M. Suicide in India: A four year retrospective study. *J Forensic Leg Med*. 2007;14:185–9.
37. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, et al. Risk factors associated with attempted suicide: A case control study. *Indian J Psychiatry*. 2004;46:33–8.
38. Latha KS, Bhat SM, D'Souza P. Suicide attempters in a general hospital unit in India: Their socio-demographic and clinical profile--emphasis on cross-cultural aspects. *Acta Psychiatr Scand*. 1996;94:26–30.
39. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, et al. Risk factors associated with attempted suicide: A case control study. *Indian J Psychiatry*. 2004;46:33–8.

40. Bayram, N. & Bilgel, N. Soc Psychiat Epidemiol (2008) 43: 667. doi:10.1007/s00127-008-0345-x
41. Bernhardsdóttir J Vilhjálmsdóttir R. Psychological distress among university female students and their need for mental health services. Journal of Psychiatric and Mental Health Nursing. 2012;20(8):672-678.
42. Michael D. & J.Timothy Counseling and Clinical Psychology Journal, 2006, 3(2). 1931 -2091.
43. Chatterjee I. & J.Basu. Perceived Causes of Suicide. Journal of the Indian Academy of Applied Psychology. July 2010, Vol.36, No.2, 311-316.
44. Suicide among medical professionals in India | India Medical Times [Internet]. Indiamedicaltimes.com. 2017 [cited 31 January 2017]. Available from: <http://www.indiamedicaltimes.com/2013/06/24/suicide-among-medical-professionals-in-india-by-dr-s-k-joshi/>
45. Bernard, J.L. & Bernard, M.L. (1982). Factors related to suicidal behaviour among college students and the impact of institutional responses. *Journal of College Student Personnel*, 23, 409-413.
46. Viñas F, Canals J, Gras ME, Ros C, Domènech- Llaberia E. Psychological and family factors associated with suicidal ideation in pre- adolescents. Span J Psychol 2002;5:20-8.
47. Rudatsikira E, Muula AS, Siziya S. Prevalence and associated factors of suicidal ideation among school- going adolescents in Guyana: Results from a cross sectional study. Clin Pract Epidemiol Ment Health 2007;3:13-7.
48. Simons RL, Murphy PI. Sex differences in the causes of adolescent suicidal ideation J Youth Adolesc 1985;14:423-34.
49. Omigbodun O, Dogra N, Esan O, Adedokun B. Prevalence and correlates of suicidal behaviour among adolescents in South west Nigeria. Int J Soc Psychiatry 2008;54:34-46.
50. Analysis of Stress Levels Among Medical Students, Residents, and Graduate Students at Four Canadian Schools of Medicine. JA, Toews, et al. 11, Canada : Philadelphia, PA : Published for the Association of American Medical Colleges by Lippincott Williams & Wilkins, November 1997, Journal of the Association of American Medical Colleges, Vol. 72, pp. 997-1002. 1040-2446.
51. Bukhari SR, Khanam SJ. Prevalence of depression in university students belonging to different socioeconomic status. J Postgrad Med Inst 2015; 29(3): 156-9.
52. Anxiety and Depression among Medical Students: A Cross-sectional Study. Jadoon, NA, et al. 8, Multan : PubMed, 2010, Vol. 60. 20726214.
53. Prevalence of Anxiety and Depression Among Medical Students of Private University. SN, Inam, A, Saqib and E, Alam. 2, Karachi : Karachi : Pakistan Medical Association, february 2003, The Journal of Pakistan Medical Association, Vol. 53, pp. 44-7. 0030-9982.
54. Rates of Depression and Anxiety Among Female Medical Students in Pakistan. F, Rab, R, Mamdou and S, Nasir. 1, Lahore : Alexandria, Arab Republic of Egypt : Eastern Mediterranean Regional Office of the World Health Organization, c1995-, jan-feb 2008, Eastern Mediterranean Health Journal, Vol. 14, pp. 126-33. 1020-3397.
55. Substance Use In a Sample Of Turkish Medical Students. Akvardar, Y, et al. 2, Turkey : s.n., November 24, 2003, Drug And Alcohol Dependence, Vol. 72, pp. 117-21. 0376-8716.
56. A Study of Psychological Distress in Two Cohorts of First-Year Medical Students that Underwent Different Admission Selection Processes. Muhammad, Saiful Bahri and Ahmad, Faud Abdul Rahim. 3, Malaysia : s.n., July-September 2012, The Malaysian Journal of Medical Sciences, Vol. 19, pp. 29-35.

57. Fifty-two Medical Student Suicides. Pepitone, Arreola Rockwell F, Rockwell, D and Core, N. 2, United States : Arlington, VA : American Psychiatric Association, february 1981, The American Journal of pyschiatry, Vol. 138, pp. 198-201. 0002-953X.
58. Depression In The Internship. Valko, RJ and Clayton, PJ. 1, United States : s.n.,
Source of support: Nil
Conflict of interest: None declared
59. Depression In the Internship. Valko, RJ and Claton, PJ. 1, United States : s.n., January 1975, Journal Of Clinical Psychiatry , Vol. 36, pp. 26-9. 0012-3714.

This work is licensed under CC BY: *Creative Commons Attribution 4.0 License*.