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Depression and Associated Risk Factors Among Medical and Allied Health Sciences Students of Southern Punjab, Pakistan

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ABSTRACT

Aim: Depression is diagnosed mostly in medical and allied health sciences students and affects their study performance. The study was conducted to obtain the prevalence of depression of the students of a developing area. The study also aimed to find the socio-demographic variables that could be the cause of depression in students.

Method: A cross-sectional study was carried out in medical and allied health sciences students. Beck Depression Inventory (BDI) scale was analysis tool of depression. The participants with BDI scores of ≥ 17 were considered depressive. For statistical analysis, Mann-Whitney U and Kruskal-Wallis analysis of variance were used.

Results: 40% of students that have participated in survey showed BDI scores of ≥ 17. Results of study showed high BDI scores among 2nd year students, poor socio-economic status, poor study performance and urban area students.

Conclusion: Depression prevalence in medical and allied health sciences students was found to be high that was significantly related to being junior in study institute, poor in socio-economic level and study.

Keywords: Depression, medical students, developing sector, Southern Punjab, Pakistan.

INTRODUCTION

Depression causes disability, suicidal tendency and heart diseases. Depression is common among adults of working age and females. Depression causes financial burden is one among the most costly diseases [1]. Depression also causes tendency to acquire physical diseases. So, cost of non-psychiatric health care is also increased along with depression. Moreover, suicide is the greatest contributor of youth death [2].

Pakistan is a developing country and Pakistan's 2017 national census estimate the country's total population to be 207,774,000 with median age of 23.8 years. Majority students after their intermediate exams want to join medical field where rugged curriculum and training inflicted negative emotions in students. A few studies from Pakistan reported depression prevalence and its socio-demographic variables in medical students [1, 3-6], however these surveys took data from single institute of developed cities and have small sample size. Causes of

depression among students are mainly study and money. Moreover, previous studies also corroborated some risk factors that have association with depression. These include age, gender, socio-economic status, residency, study performance, study year of the students [1, 3, 7-13]. Depression prevalence was evaluated in three capital cities of Pakistan and Lahore residents are highly depressive among them. Graduates showed 45.7% depression prevalence [14]. The present study aims to find the prevalence of depression and its associated variables in the medical and allied health sciences students of three institutes of most developing sector of a developing country.

MATERIALS AND METHODS

A cross sectional study was performed in 2015-16 academic session in Pharm D, Bachelor of Homeopathic Medical Sciences (BHMS), Bachelor of Eastern Medicine and Surgery (BEMS) students of The Islamia University of Bahawalpur, Pharm D students of Bahauddin Zakariya University, Multan and MBBS students of Quaid-e-Azam Medical College, Bahawalpur, Southern Punjab, Pakistan. Sample size was calculated by convenient sampling technique [15]. The total number of distributed questionnaires was 3600. Inclusion criteria was the enough time spent in institute so 1st year students were excluded from survey as they may have not acquired their environmental influence. 2nd to final year students could participate in study. Depression was evaluated by BDI, a 21 items depression evaluating instrument. Self-administered questionn-aire on socio-demographic data was also distributed. Ranking of BDI statements are from zero to three with mildness of symptoms is shown by 0 and severity by 3. IBM SPSS was used for analysis of results. For statistical analysis, Mann-Whitney U and Kruskal-Wallis analysis of variance were used.

RESULTS AND DISCUSSION

3300 students returned the experimental tool. The response rate was 91.6%. Table **1** described the basic data of population studied and variables. Prevalence of depression and its association with socio-demographic variables was shown in Table **2**.

Table 1. Students data and tested variables.

Variables	No. & %age of students	Depression scores (Mean ± S.D)	P value
Total	3300	16.7±11.3	
Sex of student:			
Male	1290 (39.1)	16.78±4.8	0.479
Female	2010 (60.9)	19.11±5.2	
Residency:			
Rural	1710 (51.8)	18.9±5.1	0.193
Urban	1590 (48.2)	17.06±5.0	
Study performance:			
High	2160 (65.5)	18.4±4.8	<0.001
Medium	390 (22.7)	15.8±4.1	
Low	750 (11.8)	19.4±5.3	
Study year:			
2nd year	840 (25.5)	21.3±4.9	
3rd year	900 (27.3)	17.0±4.8	<0.001
4th year	540 (16.4)	15.3±3.8	
5th year	1020 (30.9)	14.8±3.1	
Socio-economic status:			
High	1410 (42.7)	17.0±4.9	<0.001
Middle	1140 (34.5)	18.7±5.5	
Low	750 (22.7)	17.8±4.3	

Table 2. Association of depression and various socio-demographic variables.

Socio-demographic variables		N	Mean rank	P value
Gender	Male	1290	160.8	0.479
	Female	2010	168.4	
Residence	Rural	1590	172.5	0.193
	Urban	1710	158.9	
Socio-economic status	Low	1410	119.3	<0.001
	Middle	1140	126.9	
	High	750	258.1	
Study performance	High	2160	119.4	<0.001
	Middle	390	210	
	Low	750	246.1	
Study year	2nd year	840	212.2	<0.001
	3rd year	900	148.8	
	4th year	540	153.5	
	5th year	1020	18.1	

According to results of this study about 40% of medical and allied health sciences students included in survey of developing area of Punjab suffer from depression. The value (40%) was slightly low than the value of depression prevalence in graduates (45.7%) participated in another survey that was conducted in capital cities from Pakistan [14]. However, our study result is contrary to another study results that exhibited 70% depression among students. The reason may lie in their sample association with history of drug abuse and family history of psychiatric illness. In current study, depression was found to be more common in students with poor study performance. Some other studies also reported similar results with high prevalence of depression with exam failures [7, 16]. It may be hypothesized that depression and poor study performance are interlinked phenomenon i.e., depressive students have poor concentration, loss of energy, sleep abnormalities, lack of interest in academics leading to exam failure. Moreover, exam failure due to some other reason could also be responsible for causing depression and low self esteem. A study showed the higher depression prevalence in students having academic failure [8]. Moreover, another study confirms the 2nd assumption that academic failure leads to depression [9].

Being financially poor is also a risk factor of depression ruled out in current study. Financial problems lead to lack of self confidence that could lead to hopelessness and depression. A study supports this hypothesis of relationship of financial status and depression [9].

The current study showed the high prevalence rate of depression in junior students. The result of our study is in accordance to many other studies [1, 3, 16, 17]. The junior students might face difficulty to cope the new environment and bullying in hostels. Afterwards, depression is decreased as the students are gradually adapted to the study institutes. This study showed insignificant high levels of depression in females and this finding is similar to some other studies [1, 7]. However, a study showed higher prevalence of depression among males [8] and another showed no effect of gender [7]. Cultural background of different areas reflects the reason of this difference of depression prevalence.

Current study showed insignificantly higher prevalence of depression in students of urban area. The high levels of depression in urban residents are due to tough routine schedule and poor relationships [9]. The results are contrary to other study findings [7]. This may also due to the differences in cultural background.

Strength and Limitations of Study

The strength of study is its focus on the most developing sector of a developing country. The limitation of study is its cross sectional design that cannot confirm the causality of associated risk factors with depression. Moreover, diagnosis of depression was not confirmed by interview and only experimental tool was used.

CONCLUSION

The current study showed high depression in medical students that are mainly related to poor academic achievement and financial status. A counseling service should be formed in concerned study institutes and students should be encouraged to consult their nominated consultant teachers if they face any problems. Moreover, counseling service should contribute to find the students facing financial and academic difficulties.

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