A Study on the Prevalence of Depressive Symptoms and its Associated Risk Factors among the Female University Students in Pakistan

Anwar Khan[1], Muhammad Saqib[2] Irfan Ullah[3] Muhammad Waseem[4]

[1, 2]Department of Management Sciences, Khushal Khan Khattak University, Karak, KPK, Pakistan

[3]Department of Education & Research, University of Lakki Marwat, KPK, Pakistan

[4]Department of Commerce, Virtual University of Pakistan

Corresponding Author: easeemvu4@gmail.com

The prevalence of depressive symptoms is a recognized mental health issue among students enrolled in university. It is because they pass through an age of transition by shifting from adolescence to adulthood, and resultantly they adopt new roles, responsibilities, and tasks. Such roles are sometimes perceived as stressful, therefore leading to the development of depressive symptoms. This study has examined the prevalence of depressive symptoms among the students (female)enrolled in the newly established university of Pakistan by determining the socio-demographic and related risk factors of major depression. In this regard, a cross-sectional (case study) design was espoused and data were collected from 105 female students via through a self-reported questionnaire. Data were analyzed by descriptive as well as inferential statistics. The results showed that the prevalence of symptoms of depression and its allied risk factors changed according to the socio-economic and demographic profiles of the students. The prevalence of depressive symptoms was higher among students, who were between the ages of 18 to 20 years, single students, enrolled in undergraduate programs, and those in the first semester. On the other side, the related risk factors of depressive symptoms include marital status, socioeconomic status of students, and less weight BMI >18kg/m2). It is therefore concluded that depression is a recognized mental health issue in academia. Since depressive symptoms interfere with the routine activities of the students and may affect their academic performance, therefore, it is suggested that the students may be properly educated about their mental health. The administration of the university should also provide a conducive and favorable environment to its students, in this way the students can be prevented the detrimental effects of depression.

Introduction

The prevalence of depressive symptoms is a recognized mental health issue. It is characterized by the symptoms of melancholy, lower mood, lack of interest in life, poor appetite and suicidal intentions (Friedman & Anderson, 2014). Depression is a common occurring psychological disorder with estimated 300 million people globally suffer from the depressive symptoms (Pedras, et al., 2018). Depression is also prevailing in the organizational life, including educational institutions (Osborn, et al., 2020). It affects both students as well as teachers, however, the students (particularly university female students) are more susceptible to depression since during the university time, the students pass through the age of transition and they try to adapt to the new responsibilities of adulthood age. Such transition is sometimes perceived as stressful, thus may lead to the growth of depressive symptoms among the female as well as male students (January, et al., 2018).The depressive disorder may also develop due to the study demands and pressure from teachers side for ensuring high performance (Fawzy & Hamed, 2017).

Among the university student, the females have more chances to suffer from these symptoms of depression because they are engaged both in familial as well as university activities (Rotenstein, et al., 2016). The female students are also very conscious about their physical appearance (Nemiary, et al., 2012). Moreover, they have unique hormonal changes, which ultimately make them highly vulnerable to depressive disorder (Albert, 2015). Other factors making females students vulnerable to depression include workplace harassment & bullying (Hauge, et al., 2010), romantic break off with course mates (Fitzpatrick, 2017), poor academic performance (Sörberg Wallin, et al., 2018) and genetics or family history of depression (Choi & Back, 2015).

Research on the female depression is gaining importance because of the higher prevalence of depression among the female population and due to the complexities involved in the symptomatology of female depression (Hoare, et al., 2016). Therefore, it is important for the Psychologists to gain an extensive knowledge of the symptomatology of female depression, because it will help the proper diagnosis and treatment of depression. moreover, it will also stimulate future research on the symptomatology of female depression (Fitzpatrick & Willis, 2018).The most comprehensive conceptual frameworks for the study of symptomatology of female depression include the framework developed by Kinser and Lyon (2014) for examining the links between stress vulnerability, depressive symptoms, and mental health outcomes among the female population. This framework states that stress vulnerability is created due to various biological, environmental and social factors. This vulnerability leads to the development of depressive symptoms among female. The depressive symptoms ultimately can be linked to other psychiatric problems and morbidities.

Keeping in view the importance of research investigations on the symptomatology of depression among female respondents, the present study has determined the prevalence (i.e., occurrence) of depression among the university students (females) in Pakistan by knowing its possible

associated risk factors. In this regard, the newly established university has been selected for data collection, since the newly established universities have unique problems of infrastructure and suffer from lack of facilities, which acts as potential sources of stress. Broadly speaking, the current study will focus on following research objectives:

1. To determine the prevalence and occurrence of depressive symptoms among the university students (female) in a newly built university of Pakistan.
2. To know the potential related risk factors of depression among the university students (female) in a newly built university of Pakistan.

Methodology

Research Design and Population

This study has adopted a cross sectional (case study) research design, because this type of design can help in studying any clinical condition at a single one point of time and location, therefore, building it a highly cost and time effective (Mills, et al.,, 2010). Since this was a case study, therefore, the University of Khushal Khan Khattak, Karak, Pakistan was chosen as a case. During the time of data collection, there were total 110 female students in the campus, therefor; all of the female students were taken as population to ensure the generalizability of the results of this study.

Data collection and analysis

Data collection was done through a self-reported questionnaire, which was designed by combining the statements on socio-economic, demographic factors and the symptoms of depression. Ethical standards were maintained during data collection process and written consents were taken from both the concerned authorities as well as the students. The demographic factors included age, marital status and enrolled program, etc. The socio-economic factors were assessed by the Socioeconomic Status Scale, developed by previous researcher. The socio-economic status was divided into (lower score 15-25), (low score 26-35), (mid score 36-55) and (high score 56-75). The symptoms of depression were assessed by the eight statements of General Health Questionnaire: 28 (Goldberg & Hillier, 1979).These statements were rated on a04-points Likert rated scale. The scores ranged from 08 as low, 14 as mid and 20 as high. Finally, the Body Mass Index (BMI kg/m^2) was collected by taking data from the students on their weight and height. The BMI was categorized as (underweight, <18), (normal, 18-24) and (overweight, 25-30). After the data was collected, in the next step, the data were analyzed through descriptive statistics as well as inferential statistics including the Analysis with Multinomial Logistic Regression, which was run for determining the link amid the potential risk factors and depression among female student.

Data Presentation

Prior to data analysis, all of the filled questionnaires were examined for the missing data and in corrected fillings. The missing data analysis revealed that out of 105 only 93 questionnaires were

usable. The usable questionnaires were entered into the SPSS-20 software for detailed statistical analysis. For determining the prevalence rate, the Pearson Chi-Square was run to know the relationship between level of depression and the demographic features of the females. The details showed that there was a significant relationship between the age of female students and their level of depression (Chi-Square Value: 70.75, df: 36, p:0.005). The occurrence of depression had been moderately high among students, who had 18-23 years age. There was also a significant link between the marital status of students and their depressive symptoms (Chi-Square Value: 60.078, df: 18, p:0.009). It was reported the unmarried students had moderately high levels of depression as compared to the married students.

Table No 01: Occurrence of depression according to the socio-demographic features of students

Demographic Profile	Level of Depression& No of Students			
	No	Low	Mild	High
Age (in years)				
18-20	03	13	12	08
21-23	05	12	12	04
24-26	00	07	09	07
> 26	00	00	00	00
Chi-SquareValue: 70.75, df: 36, *p:*0.005				
Marital Status				
Married	08	11	03	03
Single	04	14	27	23
Chi-SquareValue: 60.078, df: 18, *p:*0.009				
Educational Level				
Intermediate	07	15	23	20
Bachelors	06	05	05	05
Maters	00	03	02	02
Chi-SquareValue: 31.55, df: 18, *p:*0.554				
Tenure as student (in years)				
<01	00	02	17	18
01-02	01	03	17	22
03-04	02	05	04	02
Chi-Square Value: 65.53, df: 36, *p:*0.006				
Programs Enrolled				
Undergraduate	08	17	22	13
Postgraduate	09	06	10	08
Chi-Square Value: 4.49, df: 18, p:0.030				

The educational level of students showed that there was no significant association between the level of depression and education (Chi-Square Value: 31.55, df: 18, p:0.554). The student's tenure was significantly related with the depression (Chi-Square Value: 65.53, df: 36, p:0.006). Those students having 01 or less than 01 year of tenure as a student had moderately high levels of depression as compared to the rest of the students. Finally, the programs enrolled was

significantly linked with the depression (Chi-Square Value: 4.49, df: 18, p:0.030). Those students who were enrolled in the undergraduate programs had a moderately higher depression.

In the next step, the Analysis with Multinomial Logistic Regression were done conferring to the guidelines provided in book of Hosmer et al. (2013). Depressive symptoms, which was the dependent variable has two codes (i.e., binary-coded) i.e., 00=having depression" and "01=without depression". The possible risk factors were entered into the model as independent variables. The results are displayed in table 03. The details show that risk factors like educational level, program enrolled were not significant risk factors of the depression. However, the other risk factors in the model were found to be significantly associated with the depressive symptoms. The details show that age (in years) was a significant predictor of depression (OR= 0.513, p=0056), meaning that students in the age category of 18 to 20 years were more likely to suffer from depression. Similarly, the marital status of the students was also a significant predictor of depression (OR= 3.895, p=0.089), meaning that the unmarried students

Table No 02: Associated risk factors of depression

Risk factors	Ors	95% CI	*p*-value
Age (in years)			
18-20	0.513	0.127-2.056	0.056
21-23	0.542	0.126-2.336	0.411
24-26	Reference	-----	----
Marital Status			
Single	3.895	0.777-19.672	0.089
Married	Reference	----	----
Educational Level			
Intermediate	1.43		
Bachelors	Reference	0.497-4.554	0.504
Maters	-----	------	-------
Tenure as student (in years)			
<01 years	1.250	0.415-3.766	0.093
01 to 02 years	0.982	0.357-2.725	0.980
03 to 04 years	Reference	----	----
Program of study			
Undergraduate	0.800	0.303-2.11	0.654
Postgraduate	Reference	----	----
Socioeconomic status			
Low	14.542	1.472-78.76	0.022
Middle	17.541	5.406-56.35	0.005
High	Reference	-----	----
Body Mass Index (kg/m^2)			
Underweight			
Normal	7.200	2.739-18.92	0.000
Overweight	Reference	----	----

Note: CI: Confidence Interval, with upper and lower bounds; ORs: Odd Ratios; Dependent Variable: Depressive Symptoms

had greater chances of getting from depression. The other risk factors include, student's tenure (OR= 1.250, p=0.093), socio-economic status (OR= 14.542, p=0.022), and Body Mass Index (OR= 7.200, p=0.000). It means that the students having less tenure in student ship, and those who have lower socio-economic status and normal Body Mass Index were more likely to suffer from depression

Results & Discussion

This study had two broader aims. The first aim was to determine the prevalence of depression and the second aim was to know its risk factors in the newly established university of Pakistan. The results of this study showed that the prevalence (occurrence) of depression changed (varied) in accordance to the socio-demographic characteristics of female students. Similarly, the risk factors also varied according to the socio-economic characteristics of the students. The findings of this study are in concurrence with the previous research on depression among the students. The review of existing literature shows different studies in this regard, for e.g., Wahed & Hassan (2017) conducted an empirical study on university students, who had developed symptoms of depression. Wahed & Hassan (2017) found that female university students in Egypt had depressive symptoms after they were exposed to unwanted environmental demands. This study found young age, lower socio-economic status and higher Body Mass Index as possible risk factors of depression. Similarly the study conducted by Bayram & Bilgel (2008) revealed that risk factors like e.g., age of students, gender of students, enrolled program, tenure as student and the location of student were significantly linked with the signs of depression.

The results of this current study revealed that the younger students having age of 18-23 years, and the unmarried, having average Body Mass Index and middle-class socio-economic status had high prevalence of depression. These factors also were found to be the potential risk factors of depression. Such results are supported by literature, e.g., Bayram and Bilgel (2008) found that university students in Turkey having 17-19 years age had high mean scores of clinical depression. It is due to fact that the young female students are not mature and they have weaker stress defense & coping capacities (Fiske, et al., 2019). The marital status of students was linked with depression because marriage can acts as a source of moral, familial and social support along with feelings of belongings, thus benefiting the overall mental well-being of female students. Scientists believe absence of spouse can acts as a source of frustration and depression (Kim, et al., 2015). The lower socio-economic status of students was associated with the depressive symptoms because poverty can cause feelings of insecurity and threat to the ones basic survival (Mendenhall, et al., 2017). Finally, the Body Mass Index was associated with depression because females have more chances of misapprehending their own self as over weighty. Moreover, females are more sentient regarding their physical image; hence, females spent most of their time in shaping their body physical looks. However, if they fail to maintain their body shape then they may develop feelings of lower self-respect. In short, the findings of this study have provided sufficient proof for the fact that depression is a recognized mental health problem in the

academia of Pakistan. Especially in the academic institutions which are located in the neglected deprived regions of Pakistan. Such regions have unique issues that arise due to weak infrastructure, poor governance, and inadequate resource allocation. Furthermore, students (especially female students) enrolled in such academic institutions face cultural and religious constraints, which badly restrict their routine working lives. Therefore, such issues have a negative influence on psychology of the female.

This study has certain individual as well as institutional implications. Moreover, it has also some etiological implications. The etiological implications will especially help in explaining the psycho-pathology of depression in Pakistan. The existing research shows that depressive symptoms are mostly developed after changes in the adrenocortical hormones, mainly serotonin, meaning that depression is an affective disorder (Chashmposh, et al., 2015). However, such hormonal changes mostly occur due to the stress full events and exposure to traumatic events. Therefore, scientists believe that the ultimate etiology of depression can be determined by examining both the biological as well as psychological factors (Taylor, 2014). Moreover, authors like e.g., Dobson and Dozois (2011) further explained that there are certain genetic and immunological factors, which may have a major role in depression. Apart from the etiological implications, this study has certain individual as well as institutional implications. The findings of this study can guide the female students at individual level about depression. In this way they can prevent themselves from the depressive feelings. At the institutional level the university heads and the teachers can provide a conducive environment to the students.

Conclusion

The prevalence of depressive symptoms is a recognized mental health issue among the students enrolled in university. The organizational environment of the modern universities has become over complex, where the students are exposed to various environmental demands, resultantly the vulnerability of students for depressive symptoms increases. Students having the symptoms of depression are more likely to exhibit poor academic performance, lower satisfaction and commitment towards their studies. While in a certain worst case, the students may think of quitting or leaving their studies. Therefore, depression is one of a recognized hazard in the academic life. It requires proactive steps that should be taken in dealing with this problem. Since all interventions at individual, organizational and policy levels can help in the improvement of the mental health of the students enrolled in universities of Pakistan.

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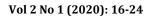
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