



Depression and Associated Factors among Female University Students: A Web-Based Survey

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History

Depressive symptoms are globally increasing among the female population. Young female students are particularly vulnerable to depression because they pass through the age of transition where they have to accept new roles and responsibilities. Female students perceive such transition as very stressful. Besides this, certain other associated risk factors are also involved. Keeping this in mind, the present study has examined the prevalence of depressive symptoms and their associated risk factors among female university students. Data was collected from 223 female students through an online self-administered questionnaire. Socio-demographic data was treated with descriptive statistics, whereas linkages between depressive symptoms and risk factors were determined through multinomial logistic regression. Depressive symptoms were moderately high among 18 to 20 years old female students, unmarried ones, economically poor, and having previous traumatic experiences. Since depressive symptoms impede routine activities and affect the academic performance of students, therefore, it is considered a recognized public health concern. Depressive symptoms can be managed through joint efforts of teachers, and university administration by providing a conducive environment inside the university. Parents should also play their role in dealing with the mental health of their youngsters. In this way, female students can be prevented from the detrimental effects of depression.



Introduction

Depression is a very common mental health disorder, which is characterized by symptoms of sadness, lack of appetite, low interest in life, and loss of energy (Cooper, 2014). Around the world there are estimated 300 million people suffering from the depressive symptoms (WHO, 2018). While in Pakistan, around 50 million people suffer from different kinds of psychiatric issues and 36% of Pakistani suffers from depression (Amir-Ud-Din, 2020). Depression is also common in the organizational life and is very rapidly spreading in the institutions of higher education (Osborn, et al., 2019). The review of existing literature shows that in the recent years depressive symptoms are increasing rapidly among the young university students. Particularly the female students are more prone to the depressive symptoms (Keyes, et al., 2019). Young female students after entering into the university life go through a transition. They have to deal with different challenging issues like academic workload, financial pressures of paying fees and conflict between family & university lives (Keyes et al., 2019). Young female students may also face problems in making new relationship and adjusting to the different social roles in the university (Shaukat & Pell, 2015). Some female students have past traumatic history, due to which they experience depressive episodes (Voth Schrag & Edmond, 2018). Depressive symptoms may also result from study demands, expectations and pressure from teachers for ensuring high performance (Fawzy & Hamed, 2017).

The female students are at risk of suffering from the depressive symptoms because they are engaged in both familial and academic roles (Rotenstein et al., 2016). The females are also very conscious about their beauty and physical look (Nemiary, et al., 2012). Apart from this, nature has made female body structure vulnerable to depression, because females body experience unique hormonal changes (Albert, 2015). Other factors that can make females students at risk to depression including workplace harassment and bullying (Hauge, et al., 2010), romantic break offs (Fitzpatrick, 2017), lower academic performance (Sörberg Wallin, et al., 2018) and familial history of depressive symptomology (Choi & Back, 2015).

Research on the symptomatology of depression among female students is gaining importance because scientists across the globe have observed higher prevalence rate of depression among the female students (Hoare, et al., 2016). Various research studies have been conducted across the globe on depressive symptoms among female students. For instance, the prevalence rate of depression among students was 44% in India (Kumari, et al., 2019), 37% in Malaysia (Shamsuddin, et al., 2013), 50% in Pakistan (Rizvi, et al., 2015), 63% in Egypt (Abdallah & Gabr, 2014) and 43% in Saudi Arabia (Kulsoom & Afsar, 2015). Despite of these research studies, the problem of depression among the female students is still not fully explored, mostly because of the complexities involved in the diagnosis and assessment of depression. Moreover, the overall symptomatology of depression is complex and it requires a vigorous investigation of the different risk factors involved. In this regard, a comprehensive theoretical framework for the study of depression among females is the framework developed by Kinser and Lyon (2014).



According to this framework, stress vulnerability is created by various biological, environmental and social factors. The stress vulnerability leads to the development of depressive symptoms among females. The depressive symptoms ultimately can be linked to other psychiatric problems and co morbidities.

Keeping in mind the above-mentioned facts about female depression, the current study aims at examining depressive symptoms among the female students in universities situated in different cities of Pakistan. This study has also examined the different risk factors of depression and determined its links with the depressive symptoms. Broadly speaking, the current study has following objectives:

1. Determining the prevalence of depressive symptoms among the female university students
2. Finding dynamic linkages between the risk factors and symptoms of depression

Methodology

Research Design

This is a cross sectional survey. The cross sectional research is time and cost wise effective, since it allows the researcher to collect data at one point of time (Mills, et al., 2010).

Population

Since it was not logistically possible for the researcher to visit each university for data collection, moreover, total number of female students in different universities was also not known; therefore, it was decided to conduct a web-based survey by identifying student through the official Facebook pages and groups of different universities. In this regard, the following pages and groups were randomly identified:

- i. Facebook Group of the Peshawar University, Pakistan
- ii. Facebook Group of the Kohat University, Pakistan
- iii. Facebook Group of the National University of Science & Technology, Pakistan
- iv. Facebook Group of the COMSATS University, Pakistan

In this way, the population of the current study included all female students who were studying at university level in different cities and who had participated in this web-based survey. Details show that total 243 female students participated in this study by completing the online questionnaire. At this point, the process of data collection was stopped, and analysis were conducted on the data collected from the 243 female respondents.

Data Collection

A web-based self-administered questionnaire was designed by taking items from the following scales:

- i. Sociodemographic Profile: It was assessed by 03 items on age, gender and program enrolled;



- ii. Socioeconomic Profile: It was assessed by 03 items of Socioeconomic Status Scale by El-Gilany, El-Wehady, & El-Wasify (2012);
- iii. Past Traumatic Experience: It was assessed by 04 items of Short Screening Scale for PTSD by Kimerling et al (2006);
- iv. Depressive Symptoms: It was assessed by the 09 items of Patient Health Questionnaire (PHQ-9) by Kroenke & Spitzer(2002)

Data Analysis

Data was analyzed both by the descriptive and inferential statistics. MS Excel and SPSS-20 software were used for data analysis. The following data analytic strategy was adopted:

- i. Cross Tables and Pearson Chi-Square was used to report the data related to the level of depression in association to the sociodemographic and socioeconomic profiles of the female students;
- ii. Mean scores were calculated for determining the socioeconomic status, level of past traumatic experience and depressive symptoms. Socioeconomic status was divided into three levels, i.e., (01 to 09 score as poor; 10 to 18 score as middle class; 18 to 27 as rich). Past traumatic experience was divided in to three levels, i.e., (01 to 08 as minimal; 09 to 16 as clearly present; 17 to 24 as extreme). Finally, depressive symptoms were divided into three levels, i.e., (01 to 09 score as low; 10 to 18 score as moderate; 18 to 27 as high).
- iii. A Multinomial Logistic Regression was run according to the procedure mentioned by Leech, Barrett, & Morgan(2014) for determining the dynamic linkages between level of depression and associated risk factors.

Results

Missing Data Analysis

All recorded questionnaires were checked for their completeness. For this purpose, missing data analysis was run. Missing data analysis revealed that 30 questionnaires had missing data exceeding the limit of 10%. According to Hair et al(2010) if missing data exceed 10% in a questionnaire then it should be deleted. Therefore, 30 questionnaires were deleted and 213 questionnaires were left for further analysis.

Level of Depression

Table 01 show that depressive symptoms were moderately high among female students who are: in the age category of 18 to 22 years (Chi-Square: 80.15, df: 46, p: 0.015), unmarried (Chi-Square: 55.25, df: 26, p: 0.011), poor with low socioeconomic status (Chi-Square: 72.35, df: 51, p: 0.022), and having extreme past traumatic experience (Chi-Square: 83.15, df: 49, p: 0.031).

Table 01: Level of Depressive Symptoms according to Socio demographic and Economic Factors



Socio demographic and Economic Factors	Level of Depression		
	Low	Mild	High
Age (in years)			
18-20	38	33	18
21-23	31	23	11
24-26	22	20	17
> 26	00	00	00
Chi-Square: 80.15, df: 46, p: 0.015			
Marital Status			
Married	12	07	06
Unmarried	66	81	41
Chi-Square: 55.25, df: 26, p: 0.011			
Socioeconomic Status			
Poor	45	36	28
Middle Class	31	25	13
Rich	16	12	07
Chi-Square: 72.35, df: 51, p: 0.022			
Past Traumatic Experience			
Minimal	12	14	13
Clearly Present	33	24	11
Extreme	44	35	27
Chi-Square: 83.15, df: 49, p: 0.031			

Dynamic Linkages between Depression and Risk Factors

To find the dynamic linkages between depressive symptoms and associated risk factors, a Multinomial Logistic Regression was run according to the guidelines of Hosmer, Lemeshow, & Sturdivant (2013). In the Multinomial Logistic Regression model, the dependent variable was Depression, which had two codes, i.e., 00=depressive symptoms and 01=no depressive symptoms. The risk factors were added into the regression model as independent variables. Results of Multinomial Logistic Regression are given in Table 02. It is clear from the table that all risk factors were significantly associated with the depressive symptoms. Details show that the age category of 18 to 20 year was the significant predictor of depressive symptom (OR=431, p=0.016). Marital status wise, being unmarried was significantly associated with depressive symptom (OR=0.714, p=0.019). Socioeconomic status wise, being poor was significant predictor of depressive symptom (OR=0.532), p=0.024). Finally, having extreme past traumatic experience was significantly associated with depressive symptoms (OR=353, p=0.013). It means that 18 to 20 years old female students, unmarried one, economically poor and having previous traumatic experience were more likely to suffer from depressive symptoms.

**Table 02: Potential Risk Factors of Depressive Symptoms**

Risk factors	ORs	95% CI	p-value
Age (in years)			
18-20	0.431	0.137-1.216	0.016
21-23	0.442	0.136-1.322	0.231
24-26	Reference	----	----
Marital Status			
Unmarried	0.714	0.417-1.622	0.019
Married	Reference	----	----
Socioeconomic Status			
Poor	0.532	0.371-1.754	0.024
Middle Class	0.498	0.298-1.887	0.871
Rich	Reference	-----	-----
Past Traumatic Experience			
Extreme	0.353	0.215-1.726	0.013
Clearly Present	0.432	0.157-1.825	0.781
Minimal	Reference	----	----

Note: Dependent Variable= Depressive Symptoms; CI=Confidence Interval; ORs=Odd Ratios

Discussion

The current study aimed at determining the prevalence of depressive symptoms among the female university students and then examining the dynamic linkages between the depressive symptoms and its associated risk factors. The findings of this study showed that Depressive symptoms were moderately high among 18 to 20 years old female students, unmarried one, economically poor and having previous traumatic experience. It means that female student in the age category of 18 to 20 years, having single status, and having poor economic status with past traumatic experience were more likely to get affected by the depressive symptoms. The findings of current study are in agreement with the findings of previous studies. It means that this study has confirmed the existence of depression among female university students. The exiting review of literature shows that different studies have reported the prevalence of depression among female students. For example, Wahed and Hassan (2017) conducted a study on the university students in Egypt and found that the female student had developed symptoms of depression after they were exposed to different depression causing factors including young age (20 years), poor economic status, and lower body weight. Similarly, Ibrahim et al. (2013) conducted a study among the female medical students in Saudi Arabia and found that female student had experience depressive symptoms during their study tenure at the medical college. Their findings revealed that female student having unmarried status, living in college dormitory, and having insufficient money for their studies were more likely to experience depressive symptoms.

A Question arises that why certain risk factors are likely to cause depressive symptoms among the female students. Scientists have given various reasons for explaining the dynamic linkage between the depression and its risk factors. Like for example, age wise, young female students are more likely to experience depressive symptoms, it is because that young females are



immature and they have lesser stress coping capacities (Lian & Tam, 2014). Similarly unmarried females although have less familial responsibility but they do not have social support from spouse. Marriage plays a strong role in providing social support and feelings of belonging. Scientists are certain that the absence of spouse can act as a source of frustration and depression (Kim, et al., 2015). Finally, female students who live with a poor economic status and also have a past trauma are more likely to experience depressive symptoms because poverty creates a sense of deprivation and unfulfillment (Yilmaz, et al., 2020), while past trauma creates flash backs and re-experiencing of the traumatic experiences that results in development of melancholic feelings (Voth Schrag & Edmond, 2018).

Implications

The findings of this study have certain individual as well as institutional implications. Moreover, it has also some important etiological implications. The etiological implications will be very helpful in explaining the psychopathology of depression among the female student population. Research have shown that depressive symptoms are usually cause by changes in the adrenocortical hormones, especially serotonin, which means that depression is an affective disorder (Chashmposh, et al., 2015). These hormonal changes usually occur during the stressful situation and exposure to traumatic events. That is why, scientists believed that the decisive cause of depression can be determined by investigating the biological as well as psychological factors of depression (Taylor, 2014). Furthermore, researchers like e.g., Dobson and Dozois (2011) explained that genetic and immunological factors play an important role in developing depression. Other than the etiological implications, there are some environmental factors, which can cause depressive symptoms. The present study has also certain individual as well as institutional implications. The findings of this study can guide the female students at individual level about depression as they may aware of the negative consequences of depression. Therefore, 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. The finding of this study has important implication for clinicians and counselor in school, college and universities.

Conclusion

The modern universities are becoming complex due to the prevalent socio-economic and technological trends. The environment inside modern universities is becoming competitive and both students and teachers are feeling themselves under pressure. Female students are particularly vulnerable to depression because they have both familial as well as work related roles. Moreover, they have to adapt to the new university life that places more responsibilities on them. Once depressive symptoms are developed, among the female students, then they academic performance is negatively affected and they feel unsatisfied from their academic life. In certain worst cases, they may think of leaving university. Depression is therefore a recognized mental



health problem among the female students in universities around the world. It can be managed through joint efforts of teachers, and university administration by providing a conducive environment inside university. Parents should also play their role in dealing with mental health of their youngsters. In this way, female students can be prevented from the detrimental effects of depression.

References

- Abdallah, A. R., & Gabr, H. M. (2014). Depression, anxiety and stress among first year medical students in an Egyptian public university. *Int Res J Med Med Sci*, 2(1), 11–19.
- Albert, P. R. (2015). Why is depression more prevalent in women? *Journal of Psychiatry & Neuroscience: JPN*, 40(4), 219.
- Amir-Ud-Din, R. (2020). Dispelling myths about mental health. Retrieved from <https://www.thenews.com.pk/tns/detail/614383-dispelling-myths-about-mental-health>
- Chashmposh, M., Shirali, S., Ebrahimi, E., & Barari, A. (2015). Correlation Between Hormonal and Neurochemical Changes and Depression With Menopausal STATUS: A Systematic Review. *Women's Health Bulletin*, 2(3).
- Choi, H.-J., & Back, S.-G. (2015). A Study on Depressive disposition by Convergence approach of Leisure History and Family situation in Elderly Women. *Journal of the Korea Convergence Society*, 6(5), 295–302.
- Cooper, R. (2014). *Diagnosing the Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition*. Karnac Books. Retrieved from <https://books.google.com.pk/books?id=3O6KAwAAQBAJ>
- Dobson, K. S., & Dozois, D. J. A. (2011). *Risk Factors in Depression*. Elsevier Science.
- El-Gilany, A., El-Wehady, A., & El-Wasify, M. (2012). Updating and validation of the socioeconomic status scale for health research in Egypt. *Eastern Mediterranean Health Journal*, 18(9).
- Fawzy, M., & Hamed, S. A. (2017). Prevalence of psychological stress, depression and anxiety among medical students in Egypt. *Psychiatry Research*, 255, 186–194.
- Fitzpatrick, J. M. (2017). *Breaking Up is Hard to Do: Teen Dating Violence Victims' Responses to Partner Suicidal Ideation', Gender, Sex, and Sexuality Among Contemporary Youth (Sociological Studies of Children and Youth, Volume 23)*. Emerald Publishing Limited.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2010). *Multivariate data analysis (Vol. 5)*. Prentice hall Upper Saddle River, NJ.
- Hauge, L. J., Skogstad, A., & Einarsen, S. (2010). The relative impact of workplace bullying as a social stressor at work. *Scandinavian Journal of Psychology*, 51(5), 426–433.
- Hoare, E., Millar, L., Fuller-Tyszkiewicz, M., Skouteris, H., Nichols, M., Malakellis, M., ... Allender, S. (2016). Depressive symptomatology, weight status and obesogenic risk among Australian adolescents: a prospective cohort study. *BMJ Open*, 6(3), e010072.
- Hosmer, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression*. Wiley.



- Ibrahim, N., Dania, A.-K., Lamis, E.-K., Ahd, A.-H., & Asali, D. (2013). Prevalence and predictors of anxiety and depression among female medical students in King Abdulaziz University, Jeddah, Saudi Arabia. *Iranian Journal of Public Health*, 42(7), 726.
- Keyes, K. M., Gary, D., O'Malley, P. M., Hamilton, A., & Schulenberg, J. (2019). Recent increases in depressive symptoms among US adolescents: trends from 1991 to 2018. *Social Psychiatry and Psychiatric Epidemiology*, 54(8), 987–996.
- Kim, J. A., Yang, S. J., Chee, Y. K., Kwon, K. J., & An, J. (2015). Effects of health status and health behaviors on depression among married female immigrants in South Korea. *Asian Nursing Research*, 9(2), 125–131.
- Kimerling, R., Ouimette, P., Prins, A., Nisco, P., Lawler, C., Cronkite, R., & Moos, R. H. (2006). Brief report: Utility of a short screening scale for DSM-IV PTSD in primary care. *Journal of General Internal Medicine*, 21(1), 65–67.
- Kinser, P. A., & Lyon, D. E. (2014). A conceptual framework of stress vulnerability, depression, and health outcomes in women: potential uses in research on complementary therapies for depression. *Brain and Behavior*, 4(5), 665–674. <https://doi.org/10.1002/brb3.249>
- Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: a new depression diagnostic and severity measure. *Psychiatric Annals*, 32(9), 509–515.
- Kulsoom, B., & Afsar, N. A. (2015). Stress, anxiety, and depression among medical students in a multiethnic setting. *Neuropsychiatric Disease and Treatment*, 11, 1713.
- Kumari, R., Langer, B., Jandial, S., Gupta, R., Raina, S. K., & Singh, P. (2019). Psycho-social health problems: Prevalence and associated factors among students of professional colleges in Jammu. *Indian Journal of Community Health*, 31(1).
- Leech, N. L., Barrett, K. C., & Morgan, G. A. (2014). *IBM SPSS for Intermediate Statistics: Use and Interpretation, Fifth Edition*. Taylor & Francis. Retrieved from <https://books.google.com.pk/books?id=IgzICQAAQBAJ>
- Lian, S.-Y., & Tam, C. L. (2014). Work stress, coping strategies and resilience: A study among working females. *Asian Social Science*, 10(12), 41.
- Mills, A. J., Durepos, G., & Wiebe, E. (2010). *Encyclopedia of Case Study Research*. SAGE Publications.
- Nemiary, D., Shim, R., Mattox, G., & Holden, K. (2012). The Relationship Between Obesity and Depression Among Adolescents. *Psychiatric Annals*, 42(8), 305–308. <https://doi.org/10.3928/00485713-20120806-09>
- Osborn, T. L., Venturo-Conerly, K., Wasil, A., Schleider, J. L., & Weisz, J. (2019). Depression and anxiety symptoms, social support, and demographic factors among Kenyan high school students.
- Rizvi, F., Qureshi, A., Rajput, A. M., & Afzal, M. (2015). Prevalence of depression, anxiety and stress (by DASS scoring system) among medical students in Islamabad, Pakistan. *Journal of Advances in Medicine and Medical Research*, 69–75.
- Rotenstein, L. S., Ramos, M. A., Torre, M., Segal, J. B., Peluso, M. J., Guille, C., ... Mata, D. A.



- (2016). Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. *Jama*, 316(21), 2214–2236.
- Shamsuddin, K., Fadzil, F., Ismail, W. S. W., Shah, S. A., Omar, K., Muhammad, N. A., ... Mahadevan, R. (2013). Correlates of depression, anxiety and stress among Malaysian university students. *Asian Journal of Psychiatry*, 6(4), 318–323.
- Shaukat, S., & Pell, A. W. (2015). Personal and social problems faced by women in higher education. *FWU Journal of Social Sciences*, 9(2), 101.
- Sörberg Wallin, A., Koupil, I., Gustafsson, J. E., Zammit, S., Allebeck, P., & Falkstedt, D. (2018). Academic performance and depression: 26 000 adolescents followed into adulthood. *European Journal of Public Health*, 28(4), 13-360.
- Taylor, W. D. (2014). Depression in the elderly. *New England Journal of Medicine*, 371(13), 1228–1236.
- Voth Schrag, R. J., & Edmond, T. E. (2018). Intimate partner violence, trauma, and mental health need among female community college students. *Journal of American College Health*, 66(7), 702–711.
- Wahed, W. Y. A., & Hassan, S. K. (2017). Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. *Alexandria Journal of Medicine*, 53(1), 77–84.
- Yilmaz, F., Ozcan, D. G., Gokoglu, A. G., & Turkyilmaz, D. (2020). The Effect of Poverty on Depression Among Turkish Children. *Child and Adolescent Social Work Journal*, 1–11.