ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

Anxiety, Stress and Depression in Overseas Medical Students and its Associated Factors: A Descriptive Cross-Sectional Study at Jalalabad State University, Jalalabad, Kyrgyzstan

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Abstract:-

➢ ***Background:***

Stress can be described as a mental state of tension or be concerned brought on by an unpleasant circumstance. Stress is an ordinary human reaction that encourages us to face challenges and dangers in life. According to the WHO, four out of every five college students are contemplating or have attempted suicide. Medical education is considered as demanding because students undergo several psychological transformations. It is estimated that half of all significant adult psychiatric illnesses, including depression, begin before the age of fourteen. 75 % of college students do not seek help for mental health issues. (1)

➢ ***Materials and Methods:***

A cross-sectional study was conducted in three months period of time from the month September till November 2023, among 150 students of various years at Jalalabad State Medical University using online Google forms. The study was conducted using DASS 21-item questionnaire to assess the level of stress, anxiety, and depression among students. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 22.0 software. Ethical approval was taken from the University.

➢ ***Result:***

In the study 9% of people reported having a moderate to extremely severe degree of stress, anxiety 27.3% and depression was found among 4% respectively in students. Stress and study of year were substantially correlated. (p = 0.007). Anxiety and extracurricular activities were found to be significiant (p = 0.004). Extracurricular activities and depression were linked. (p = 0.029) and the type of family they belong to (p = 0.015). While stress and depression were shown to be uncommon among medical students, anxiety was found to be more common, which might be related to a variety of factors such as new environments, difficult subjects, complex terminology, etc.

➢ ***Conclusion:***

It is important to highlight the points like financial issues, home sick, behaviour of teachers and friends etc would be the stressful elements that might lead to increase the psychological problem among medical student. Following research endeavors in this domain ought to endeavor to address these constraints. In any event, we believe that our results emphasize the necessity of putting policies in place to protect and, where appropriate, improve the mental health and general wellbeing of medical students.

Keywords:- *Anxiety, Depression, Prevalence, Stress, Medical Student.*

I. INTRODUCTION

Stress is a condition of anxiety or tension in the mind brought on by a difficult circumstance. Stress is an inevitable human response that drives us to face obstacles and threats in life. Everyone goes through periods of stress. But how we react to stress has an important impact on our general well-being. Stress affect the body as well as the mind. A small amount of stress is healthy and useful for our everyday activities. Excessive stress may be detrimental our mental and physical well being. Developing coping mechanisms for stress can reduce emotions of excess and improve both our physical and mental well-being. Mental health is one of the biggest factors that determines life satisfaction and quality. In wealthy and developing countries alike, undergraduate university students usually suffer from poor mental health, an extensive psychological disease.

According to the American Psychological Association, anxiety and depression are emotional responses that produce symptoms such as fatigue, irritation, muscular strain, and difficulty getting to sleep. Anxiety persists even in the absence of a stressors, whereas stress is typically triggered by an external stimulus and may remain for brief periods.

Prolonged stress is widely recognized to contribute to the development of many illnesses and impose a significant financial burden on the community.(2) Stress, anxiety, and depressive disorders can create mental distress which might

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

lead to adverse effect on academic performance in college students. (3)

Workload and exams, minimal time for recreation, competitiveness, worries about living up to parental expectations, forming new connections, relocating, biological variables like age and gender, and financial hardship are all causes of stress during college. (4,5)

Psychological anguish is generally higher among our respondents than it is in the entire population. Perhaps this is due to medical students' extensive coursework and clinical fieldwork. Mental illnesses, substance abuse, anxiety, sadness, and suicidal thoughts are all examples of stress-related consequences.(6)

Due to the numerous psychological changes that students experience during medical school. Various study findings indicate that students' mental health deteriorates when they start medical school and stays poor throughout the course of study. (7)

According to estimates, depression and other adult psychiatric illnesses become apparent by the age of fourteen. Depression symptoms are reported by 44% of American college students. Of college students, 25.6% of men and 31.7% of women said they had experienced depression to the point that it was hard for them to function at least once in a year. Male suicides are four times higher than female death by suicide, yet for every male attempt, three female attempts are made. Each year, more than 3,900 youngsters take their own lives.(8)

II. SUBJECTS AND METHODOLOGY

It was a descriptive cross-sectional study which was done online through google forms from September to November 2023. Data were collected from all respondents who were asked to fill in the questionnaire, the first part had socio-demographic information and the other part was with Stress, Anxiety and Depression Scale 21-item (DASS-21).

The DASS-21 stress subscale was used to assess the level of stress. Normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (34 and above) are the classifications that comprise the stress subscale scores. The DASS-21's anxiety subscale was also used to gauge the degree of anxiety. Subscale scores were classified as follows: normal (0–7), mild (8–9), moderate (10–14), severe (15–19), and extremely severe (20 and above); the DASS-21 depression subscale was used to determine the degree of depression. The subscale scores are divided into five categories: where mild has score (10–13), moderate with score (14–20), severe with score (21–27), and extremely severe with score (28 and above).

III. RESULT

A total of 150 respondent from different year of medical students from Jalalabad State University, medical faculty.

Table 1: Distribution of Respondents as per their year of study

Responses	Frequency	Percentage(%)
1st year	19	12.7
2nd year	31	20.7
3rd year	68	45.3
4th year	12	8.0
5th year	20	13.3
Total	150	100.0

Above table indicates that the majority of respondents 45%(68) out of 150 were from 3rd year followed by 20% from 2nd year and least from 4th year (8%).

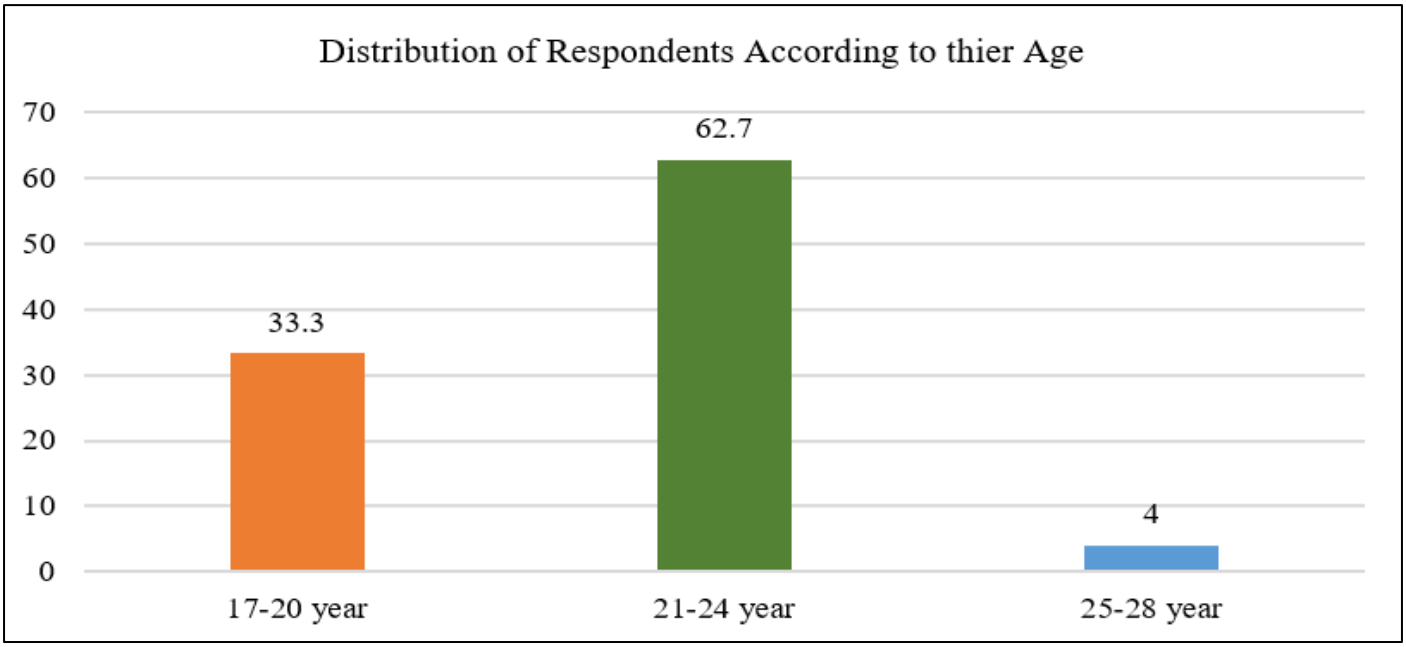

Fig 1: Distribution of Respondents According to their Age

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

Among 150 respondents , 33.3% students were in between age 17 – 20 years old , 62.7% students in between 21 – 24 years old and 4% students were in age between 25 – 28 years old. Majority of students have age between 21 – 24 and they are under the category of vicenarian in which person have a lot of pressure for stable career. (Figure 1)

Table 2: Distribution of Respondents as their Gender

Responses	Frequency	Percentage(%)
Male	105	70.0
Female	45	30.0
Total	150	100.0

Above table shows that maximum respondents that took part in our research study were male with 70% and remaining 30% were only female participants.

Table 3: Distribution of Respondents According to their Country they belong to

Responses	Frequency	Percentage(%)
Pakistani	70	46.7
Indian	74	49.3
Bangladeshi	5	3.3
Nepali	1	.7
Total	150	100.0

Out of 150 respondents majority 49.3%(n=74) were from Indians, 46.7%(n=70) from Pakistani and remaining 3.3%(n=5) and 0.7%(n=1) were from Bangladeshi and 1 Nepali respondent respectively.

Table 4: Distribution of Respondent as Remaining Socio-Demographic Information

Responses	Frequency (n=150)	Percentage (%)
Type of family		
Joint	107	71.3
Single parent	29	19.3
Guardians	14	9.3
Marital Status		
Single	147	98.0
Married	3	2.0

Above table shows that, 71.3% students are living in joint family, 19.3% are living with their parents and 9.3% are living with their guardians 98% students are unmarried and 2% are married that have burden and responsibilities of their personal life with studies that made the medical school life more tough for them.

Table 5: Distribution of Respondent according to their Responses Affect on their Daily Life

Characteristics	Frequency (N=150)	Percentage (%)
Spending Time on social media		
Too Much	59	39.3
Some time	66	44.0
Little Bit	25	16.7
Trouble in sleep		
Yes	48	32.0
No	76	50.7
May Be	26	17.3
Suffering from home sickness		
Yes	40	26.7
No	61	40.7
Sometime	49	32.7
Fear of license exam and future plans		
Yes	96	64.0
No	28	18.7
May be	26	17.3
Type of nature		
Introvert	105	70.0
Extrovert	45	30.0
Most stressful element during your medical school		
Financial issues	53	35.3
Relationships	24	16.0
Study burden	46	30.7
Home sickness	17	11.3
Lack of appetite	10	6.7

According to data, majority of 83.3% students spend time on social media that lead to waste of time result in burden of studies and stress. Our study revels that 48 students (32%) are suffering from insomnia. Every medical student worry about their career how to proceed by passing license exam, according to data, 64% students have fear of license exam, 17.3% feel sometimes fear of license exam and 18.7% students don't experience any fear. Among our respondents 70% students are introvert that might be one reason of depression and anxiety and 30% students are extrovert.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

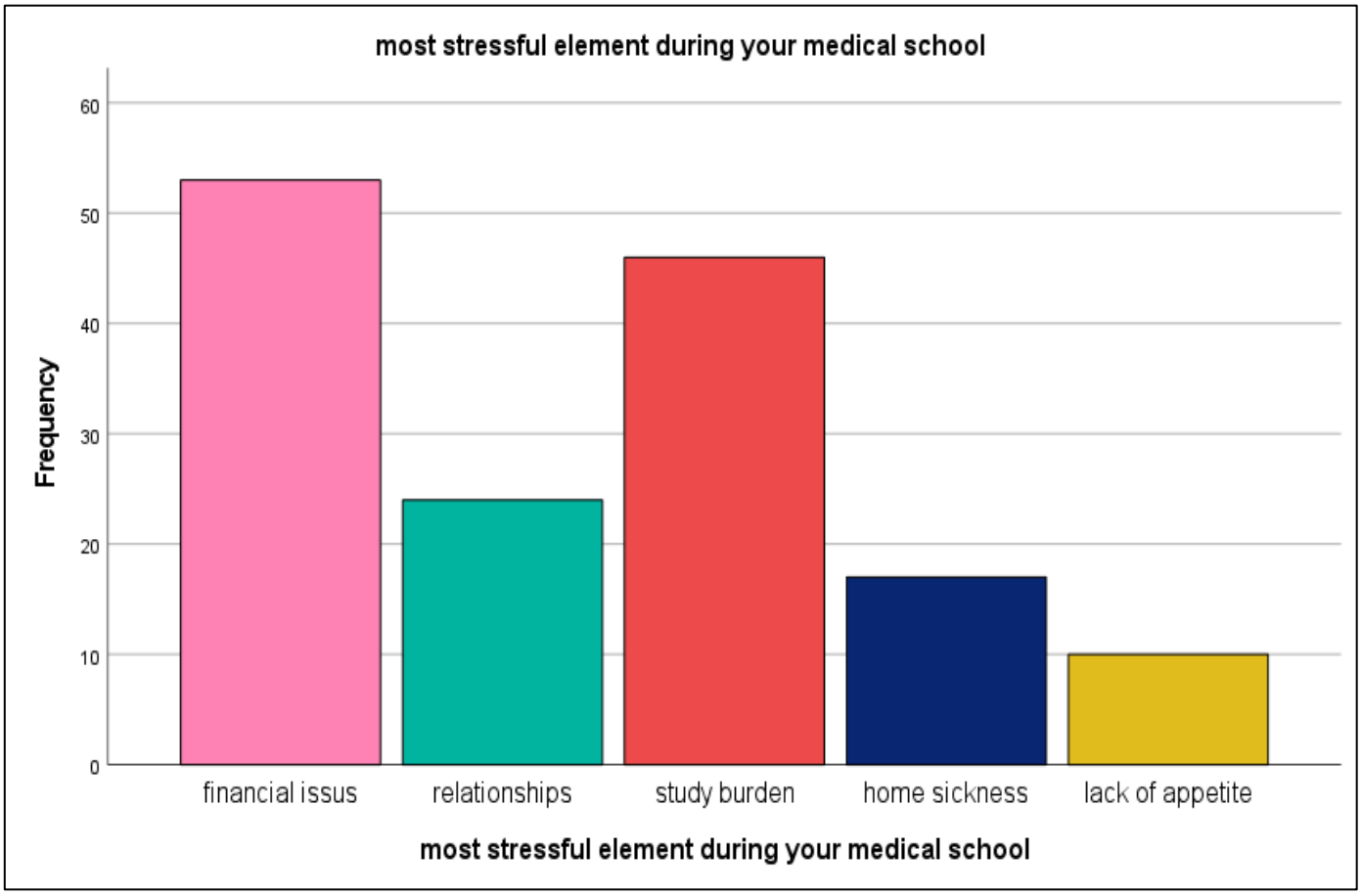

Fig 2: Distribution of Respondents According to their Feeling Regarding Most Stressful Condition in Medical School

Above figure shows that the most stressful element in medical school, is financial issues with 35.3% followed by study burden with 30.7% and home sickness (11.3%) are also major elements.

Table 6: Distribution of Respondents with their Symptoms of Anxiety, Depression, and Stress Determined by the Degree of Severity

Severity Level	Frequency (n=150) Percentage(%)		
	Stress	Anxiety	Depression
Normal	104(69.3)	76(50.7)	108(72)
Mild	31(20.7)	33(22)	36(24)
Moderate	12(8)	30(20)	6(4)
Severe	3(2)	11(7.3)	0(0)
Extremely Severe	0(0)	0(0)	0(0)

Above table shows that among medical students, the incidence of moderate to extremely severe stress was found to be 9% anxiety to be 27.3%, and depression to be 4%. whereas it was shown that medical students had a low level of stress and depression.

Table 7: Distribution of Respondents According to their Extra Curriculum Activities

Extra Curriculum Activities	Frequency	Percentage(%)
Active	132	88
Not Active	18	12
Total	150	100

Out of 150 respondents majority of respondents 88% were involved in some parts of extra curriculum activities where as remaining 12% said they never took any part in any extra curriculum activity.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

Table 8: Correlation Between Socio-Demographic and Anxiety, Depression and Stress

Factor Variables	**Stressed Score**		**P-value (95% CI)**
Year of study	Yes (n=15)	Percentage	.007*
1st year	6	40	
2nd year	8	(53.4)	
3rd year	1	(6.7)	
	Anxiety score		
Extra curricular activities	Yes (N=41)		0.004*
Active	36	87.80	
Not active	5	12.1	
	Depression Score		
Family Type	Yes (N=6)		0.015*
Joint	4	66.7	
Single parents	2	33.4	
Extra curricular activities	Yes (N=6)		0.029*
Active	5	83.4	
Not active	1	16.7	

* = Significant Statistically

Stress was significantly associated with year of study (p = 0.007). Anxiety and extracurricular involvement were associated. (p = 0.004). Depression was associated with extra curricular activity (p =0.029) and the type of family they belong to (p = 0.015). The prevalence of anxiety was high which could be due to new environment, difficult subject to understand, tough terminology etc similarly it was found that there was not any proof of stress or depression among medical students.

IV. DISCUSSION

A total of 150 respondent from different year of medical students from Jalalabad State University were selected from the sampling size where as the age was 21-24 years old with mean age of 22±1 years. Majority 70% of the respondents are male predominance was found over females with (30%). Out of 150 respondents 45%(68) were from 3rd year, 20.7% were from 2nd year and 13.3% were from 5th year respectively. One of the most important factors influencing the quality and pleasure of life is mental health. Different socioeconomic backgrounds may create a range of risk factors for mental health once students enter universities.

In our study, financial issues was the most stressful elements during medical life experienced by respondents similarly other factors causing stress and anxiety were study burden problems in relationships, home sickness and fear of licence exams & Future plans. Similar findings were found in study done by Ahmad A Mirza, which states that Anxiety and depression were primarily associated with younger ages, poorer socioeconomic status, living alone in a rented room, financial difficulties, and long working and study hours. (9)

Stress (30.7%), anxiety (47.3%), and depression (28%) were identified to be prevalent symptoms among medical students in this study. Similar findings was found in Zaragoza, Spain, a study of medical professionals revealed that stress symptoms were more common in this 34.5%, anxiety in 23.6%, and depression in 18.4% of respondents (10) Where as In contrast, the current study's prevalence of anxiety was higher than that of research done in ndia (9.8%) (11) and Nepal (5%) (12).

According to the current survey's results, a high number of medical students experienced both stress and anxiety. A 2016 analysis study published in the Journal of the American Medical Association examined many studies involving over 129,000 medical students in 47 countries and found that almost thirty percent of them experienced depression. This is much greater than the 9 percent of 18 to 25-year-olds in the overall population who experience depression nationally, as reported by the National Institute of Mental Health.(13)

We found that 69.3% of the participants were normal, while the remaining participants had stress levels of mild (20.7%), moderate (8%), and severe (2%), respectively (p-value is 0.007 using the DASS test). By comparison, a study conducted in Albaha, Saudi Arabia, discovered that 14.5% of the participants were normal, while the remaining participants had stress levels of mild (24%), moderate (30%), and severe (31.5%), respectively (p-value = 0.00001). The prevalence of anxiety was high which could be due to new environment, difficult subject to understand, tough terminology etc.(14)

In our study, 50.3% of the participants were normal, while the remaining participants (49.7%) had anxiety levels of mild (22.7%), moderate (20%), and severe (7.3%) respectively. A cross-sectional study which was conducted in Pakistan indicated that medical students had a significant prevalence of anxiety (47.7%). Of the students, 27.6% had mild anxiety, 13.6% had moderate anxiety, and 6.5% had severe anxiety symptoms.(9) These findings were consistent with our findings. Of the participants in our study, 72% were normal, while the remaining participants (28%) had either mild (24%) or moderate (4%), but no respondent had severe depression. According to Ahmad A Mirza globally, medical students are thought to experience depression or its symptoms at a rate of 27.2%. Study conducted at UAE states that 28.6%

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24MAR1858

medical students showed depression and it was common among preclinical students. These results corroborated our findings. (15)

V. CORRELATION BETWEEN SOCIO-DEMOGRAPHIC FACTORS AND ANXIETY, DEPRESSION AND STRESS LEVEL

Respondents who were in 1st year and second year of medical study had statistically significant association with the stress disorder. This might be due to in an unfamiliar environment, meeting friends beyond the family, or encountering an alternate teaching-learning method. academic pressure, competitive environment. Whereas effective support system, stress management techniques and early intervention programs can help mitigate these stressors and promote student well being. A study done in Germany at Heidelberg University and the University of Düsseldorf found that many participants moving from school to university was associated with significant personal challenges, particularly difficulties related to living alone for the first time.(16) Study conducted at College of Medicine, King Saud University also revealed highest prevalent rate of stress among first-year students (78.7%), followed by the second-year (70.8%) which has the similar result found in our that study too where First and second year students are linked to higher levels of stress (>90%) compared to other years. (17, 18)

In our study, we found that there is association between anxiety and depression with extra-curricular activity (p = 0.004 & 0.029 respectively) which was contradictory to study done by Mukesh H V where extracurricular activities can offer valuable experiences and skills development but they also pose challenges that may contribute to increased anxiety & depression among medical students. High expectation from the society, competition, social pressure, peer pressure etc might be the factors to increase the possibility of occuring anxiety & depression among medical students. Finding a balance and prioritizing self-care are essential for managing these stressors effectively. (19)

Similarly depression was found to be positively associated with type of family . It shows that respondents living in joint family has increased the risk of depression similar to study done by Kate Parker which states that adolescents who were highly engagged in joint family had greater life satisfaction and fewer psychological issues. It might be the respondents had to leave their family back home and here they have to live along they might be missing strong family support within joint families. (20)

Medical students faces high levels of pressure and demands so they should find a balance between academic demands and personal well being. Taking care of oneself not only benefits the individual but also contributes to a healthier and more resilient medical community. The negative effects of long duration of course of study and challenging medical education on the psychological status of students have been shown in several studies.

VI. CONCLUSION

In our study the findings suggest that the stress level in the initial three years of the course was higher than the last two years of the course. Physical problems might have led to extra stress but students that are active in extra-curricular activities are on high risk of anxiety. The surrounding environment and lack of family support have more risk to cause depression among medical students. academic performance, or between regular participation in the course and grades. The results of the first-year medical students' high levels of stress also imply that, upon admission to medical school, extra attention should be given to finding any obvious psychological stress or psychiatric issues.

SUGGESTIONS AND RECOMMENDATIONS

In Google form , there was one section where students will specify how they do different activities to cope up with their stress and our 150 respondents give their individual suggestions that it is summarize here in a paragraph; Most students used to listen music, do some exercises like yoga, plan trip outside the city, do some religious activities, gaming, get together with their friends, take deep sleep, talk to their parents or their loved ones, listening motivational speeches, reciting their holy books, playing sports, watching movies, sharing problems with friends and family, eating good and delicious food, and doing their favorite hobbies like dancing, singing etc. (some students use meditation, drugs, smoking, alcohol intake for dealing with their stress. Whenever there is Art of medicine is loved, there is also a love of humanity: So, as a medical students, we should take care of psychological and physical health of students to prepare a productive doctor for society.

The main conclusion of elevated psychological stress among Jalalabad State University of Medical Faculty students emphasizes the importance of integrating counseling and preventative mental health treatments within the typical clinical services provided to medical students.

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