RESEARCH ARTICLE

A CROSS-SECTIONAL STUDY TO FIND THE ASSOCIATION OF MIGRATION ON DEPRESSIVE AND ANXIETY DISORDERS AMONG NURSING STUDENTS IN A TERTIARY CARE HOSPITAL IN BANGALORE

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Manuscript Info

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Abstract

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Objectives: To determine the prevalence of depression and anxiety disorders among Nursing students and their association with migration.
Methodology: A cross-sectional study was conducted at Sapthagiri Institute of Medical Sciences from December 2023 to January 2024. The study included 60 BSc nursing students, using Generalised Anxiety Disorder-7 Item Score and Zung Self Rating Scales to assess anxiety and depression. Migrant students were compared with local students to explore the impact of migration.
Results: Out of 75 students, 60 participated, with 62% female and 48% male. The majority (73%) were from Kerala, with 87% being migrants. The prevalence of depressive disorders was 11.7%, with a higher proportion (87.5%) among migrants. Anxiety disorders affected 57.5% of the participants, with 78% being migrants. Migrants had a significantly higher prevalence of mild to moderate anxiety symptoms compared to non-migrants. Statistical analysis showed a positive correlation between migration and Generalised Anxiety Disorder-7 Item Score, and it was indicated that migrants had a 3.63 times higher likelihood of developing depressive or anxiety disorders.
Conclusion: Migration significantly impacts the mental health of nursing students, with a notable increase in anxiety disorders among migrants. Depression rates were lower than expected. Further research with larger sample sizes and longer study periods is needed to validate these findings.

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Introduction:-

Migration is a social change process where an individual moves from one cultural setting to another permanently or for a prolonged period. It is a universal phenomenon that has occurred since ancient days. People move from one place to another for better living conditions, food, employment, education, business, and other reasons.

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As per the UN's World Migration Report, globally, the number of students studying abroad has significantly risen in the past 20 years, as indicated by UNESCO data. In 2001, the figure stood at slightly over 2.2 million. A decade later, it had increased to over 3.8 million. This trend continued, reaching over 6 million in 2021, almost three times the number from 20 years ago.[2]Ernest Ravenstein (1885), is one of the earliest migration theorists who collected census data from England and Wales to develop the "Laws of Migration" in 1889. Ravenstein concluded that migration is influenced by a push-pull process, where adverse conditions in one location drive people away, while positive conditions in another attract them. This dual mechanism accounts for the movement of populations between different areas.[3]

According to Bogue's Pull theory (1961), migration with a very strong push stimulus tends to be less selective concerning the community of origin than migration with a very strong pull stimulus. (Jansen, Clifford J., 1970).[4]In 1966, Lee proposed the "Push-Pull Theory of Migration", which suggests that various factors can lead to migration.

Table 1:- Push-Pull factors of migration(adapted from Bhugra D, Jones P. Migration andmental illness. Advances in psychiatric treatment. 2001 May;7(3):216-22.)[16]

| PUSH FACTORS	PULL FACTORS
Economic Factors: • Lack of job opportunities • Loss of wealth or industry • Poor medical care • Landlord/tenant issues **Environmental Factors:** • Desertification • Famine or drought • Natural disasters • Pollution **Social Factors:** • Primitive living conditions • Bullying • Discrimination • Poor marriage prospects **Political Factors:** • Fear of political persecution • Lack of political or religious freedom • Slavery or forced labor/Death threats/War	**Economic Factors:** • Job opportunities • Better medical care **Social Factors:** • Family connections • Better chances of marrying **Political Factors:** • Political and/or religious freedom **Environmental Factors:** • Better living conditions • Attractive climates **Personal Factors:** • Enjoyment and quality of life • Security
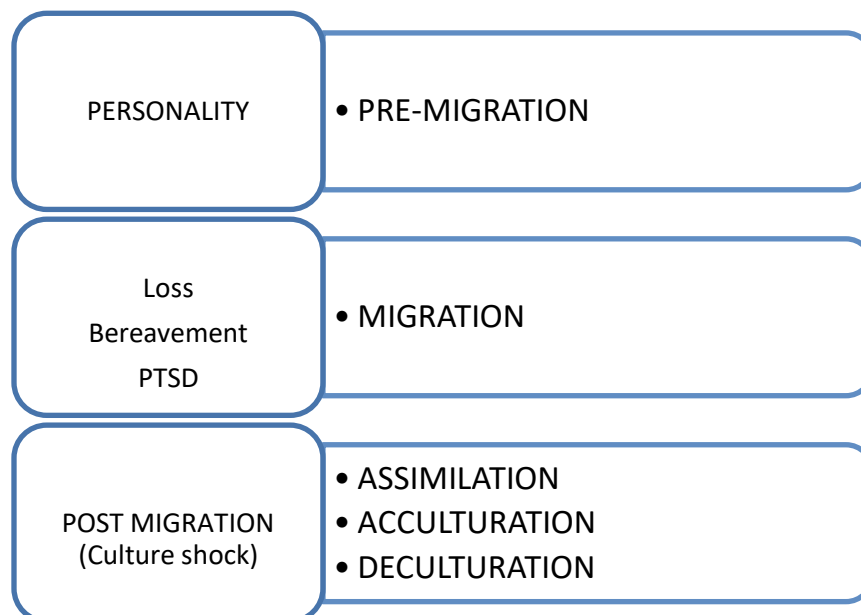
Figure 1:- Stages of Human Migration(adapted from Bhugra D, Jones P. Migration and mental illness. Advances in psychiatric treatment. 2001 May;7(3):216-22.)[16]

Anxiety disorders (ADs) are one of the most common psychiatric disorders that affect the quality of life. As per the World Mental Health Survey (WMHS), the lifetime prevalence of ADs across different countries ranges between 3% and 19%[5]. The Global Burden of Disease 2015 [6] ranked ADs as the sixth-largest contributor to disability-adjusted life years. In accordance with the National Mental Health Survey (2016), the highest AD distribution was among theage group of 18-29 (28.1%) followed by the age group 30-39 (19.8%). Concerning education, illiterates (28.5%), and those with primary schooling (21%) were highest, followed by high school (17.3%) and secondary (14.2%) education. While 43.1% were employed,77.2% of individuals with ADs were married, and 61.7% of individuals with ADs resided in rural areas[7].

Globally, the burden of depression is on the rise [8] and major depressive disorder (MDD) was the third leading cause of disability in 2015.[9] Estimated global prevalence of depressive episode/Depressive disorder ranges from 3.2% to 4.7%[10,11]. The global period prevalence of mood disorders was 5.4% [12], and its prevalence in WHO-World Mental Health Survey ranged from 0.8% to 9.6% across countries[13]. The National Mental Health Survey (NMHS) of India reported a prevalence of 2.7% of depression among Indians at the time of the survey and that 5.3% of the population had a depressive episode in their lifetime[13].

However, it was observed that only 25% of the people with anxietydisorders and 35 % of depressive disorders get treated adequately[14].

Systematic review research on emotional and behavioral problems in migrant children and adolescents in Europe revealed an increase in internalizing problem behavior in the migrants increasing the risk for mental health conditions[33].

In India, Nursing Educational Institutions (NEI) provide the following major courses: General Nursing and Midwifery (GNM) diploma and BSc. Degrees, post-basic BSc. in Nursing and post-basic diploma in Nursing and MSc. Nursing[17].

Scenario in Bangalore
Karnataka has 864 nursing colleges, with Bangalore being a metropolitan city that has around 300 nursing colleges, making it a preferred destination for nursing aspirants. There are 229 nursing colleges in West Bengal and 259 in Kerala.

However, there is a high demand for pursuing a degree in nursing as many individuals aspire to go abroad for better employment opportunities, which offer a better standard of living and higher pay.

In the year of 1932,Odergaard conducted research to know migration and its connection with mental disorders(Norwegian emigrants to Minnesota, USA)of whom people with genetically predisposed psychosis later developed Schizophrenia.

He pointed out that when people are vulnerable to mental illnesses, they are more prone to develop disorders subsequent to migration.

It shows that migration becomes a precipitating factor for mental illnesses due to the various barriers that people come across in the migration process and in the post-migration period.

Mental health concerns are on the rise for nursing students across Karnataka due to the social and language barriers faced by them.

Methodology:-

A cross-sectional study was conducted at Sapthagiri Institute of Medical Sciences from December 2023 to January 2024. The study included 60 BSc nursing students, using Generalised Anxiety Disorder-7 Item Score and Zung Self-Rating Scales to assess anxiety and depression. Migrant students were compared with local students to explore the impact of migration.

Inclusion criteria:
BSc.Nursing students posted in Sapthagiri Medical College from December 2023 to January 2024.

Exclusion criteria:
1. People who were not willing to fill the forms provided.
2. Presence of any premorbid medical conditions.

Results:-

1.   There were around 75 students posted in Sapthagiri Hospital in the Month of December-January.
2.   Out of the 75 people around 8 people were not willing to participate in the study.
3.   7 of them had not completed the proformas, and hence were excluded from the study.

Our study population consisted of 60 subjects.
The mean age of the population was 20.3+/-1.05. Sixty-two percentage of the study comprised females and 48% were males. Seventy-three percent of them were from Kerala, 13.3% each were from West Bengal and Karnataka ie. 87% of them were immigrants. Seventy percent were from a rural background and 27 % were from an urban background.The prevalence of depressive disorder was 11.7% among which 87.5 % were migrants and 12.5% were non- migrants. The overall prevalence of anxiety disorder was 57.5% in the study population of which 78% were migrants. Seventy Nine percent of the migrants had mild to moderate Anxiety symptoms and 62.5 % of non-migrants had Anxiety symptoms.

Table 2: -Demographic characteristics of study subjects.

		MIGRANTS	NON-MIGRANTS	χ²and p-values
SEX	MALE	37%(17)	75%(6)	χ²=5.25
	FEMALE	63%(35)	25%(2)	p=0.022
BACKGROUND	URBAN	67%(35)	87.5%(7)	χ²=1.35
	RURAL	33%(17)	12.5%(1)	p = 0.246
YEAR OF STUDY	SECOND YEAR	44%(23)	37.5%(3)	χ²=0.02 p = 0.877
	THIRD YEAR	56%(29)	62.5%(5)	

The results of the Chi-squared test revealed a statistically significant relationship between sex and migration status ($\chi^2(1)$ = 5.25, p = .022, Cramér's V = 0.3). However, there was no statistically significant relationship found between background and migration Status (χ^2= 1.35, p = .246) or between migration Status and Year of Study (χ^2 = 0.02, p = .877).
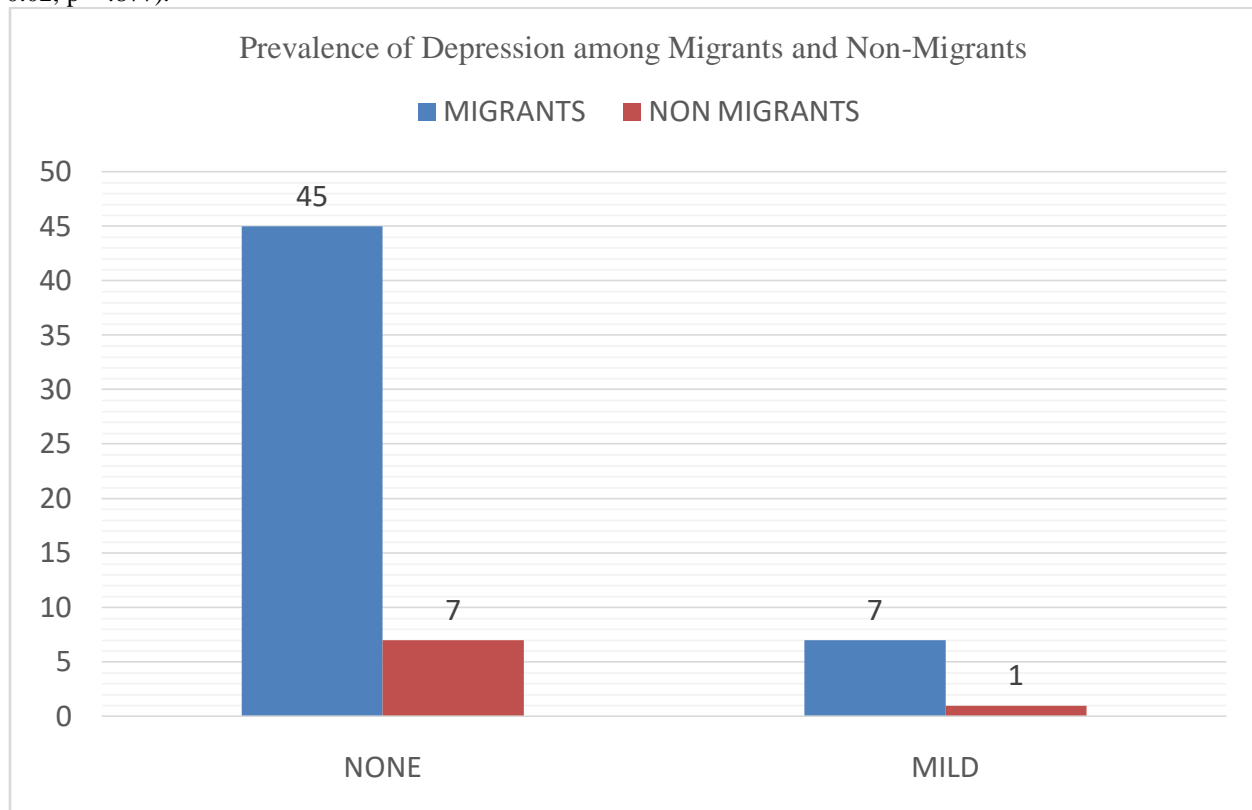

Figure 2:- Prevalence of Depression among Migrants and Non-Migrants.

Only 7 of the 52 migrants had mild depressive symptoms and only 1 among the 8 Non-Migrants had mild depressive symptoms.
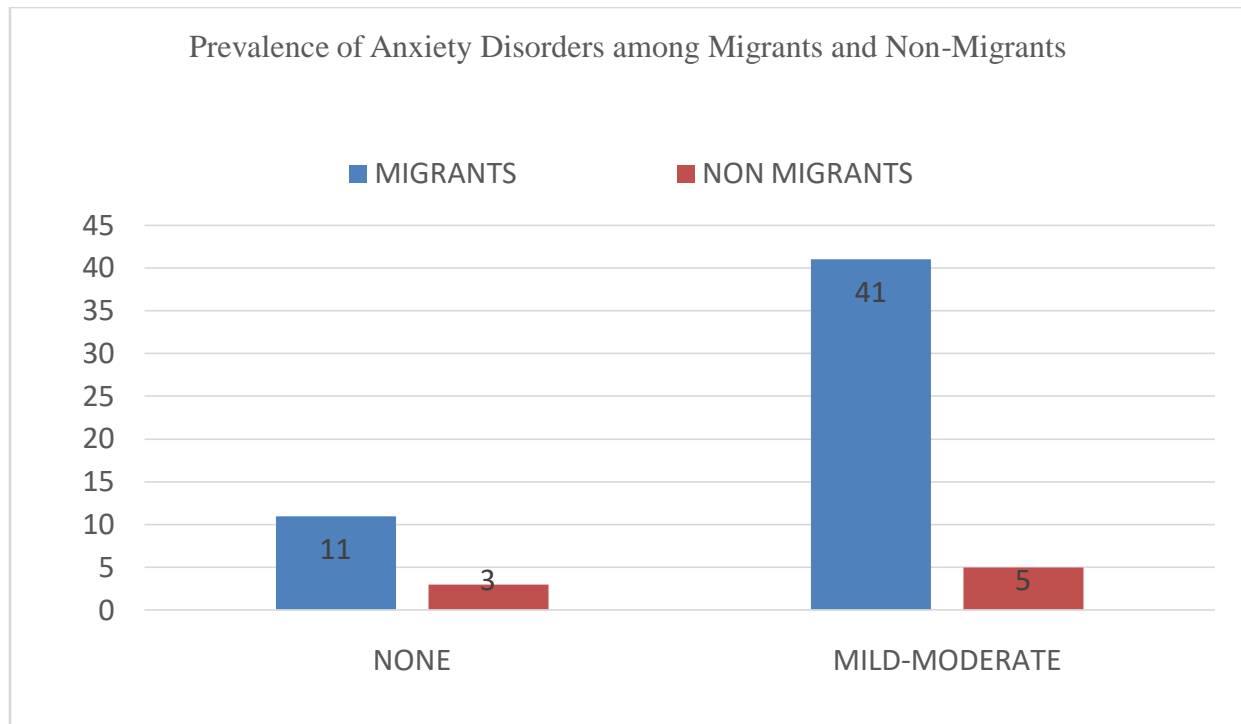
Figure 3:- Prevalence of Anxiety Disorders among Migrants and Non-Migrants.

Forty-one of the Fifty-TwoMigrants had mild to moderate Anxiety symptoms. Five out of the Eight Non-Migrants had mild to moderate Anxiety symptoms. The odds that the Migrant population would develop either depressive disorder or anxiety disorder was 3.63 times higher.

Table 3: - Distribution of Zung's Self-Rating Scale and Generalised Anxiety Disorder-7 Item Score Rating Scale among Migrants and Non-Migrants.

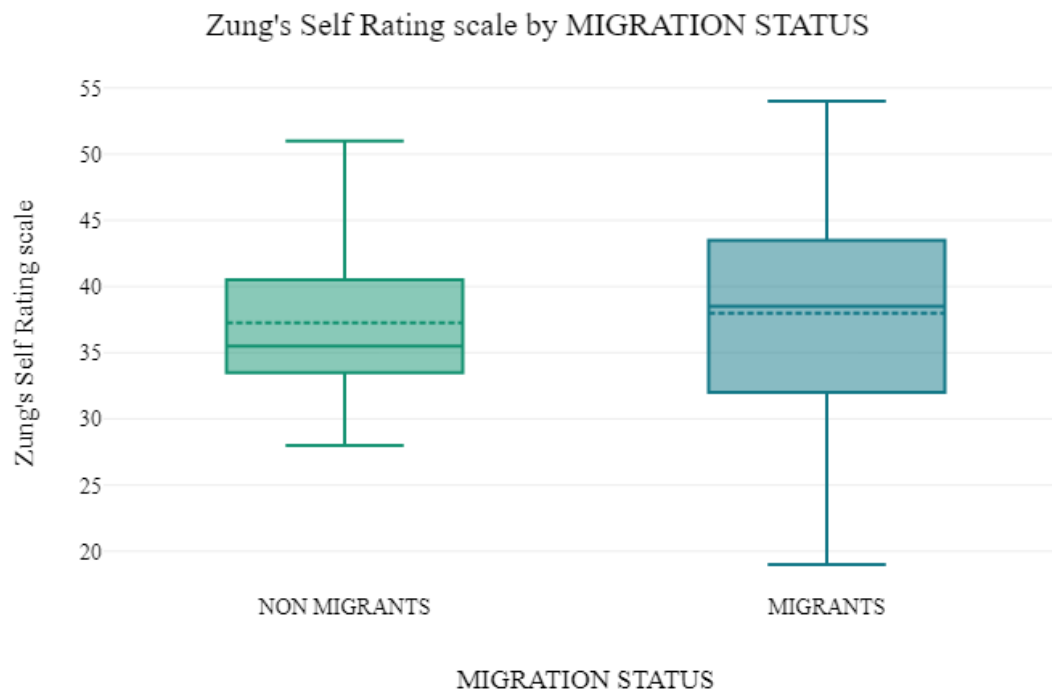|		n	Mean	Std. Deviation	Std. Error Mean
Zung's Self Rating Scale	**NON MIGRANTS**	8	37.25	7.11	2.51
	MIGRANTS	52	37.98	8.16	1.13
GeneralisedAnxiety Disorder-7 Item Score	**NON MIGRANTS**	8	6.75	5.92	2.09
	MIGRANTS	52	8.56	4.64	0.64

Figure 4:- Box-Whisker plot depicting the correlation between Zung's Self-Rating Scale and Migration Status**.**

The results of the descriptive statistics showed that the non-migrant group had lower values for theZung's Self - Rating Scale for depression (M = 37.25, SD = 7.11) than the migrant group (M = 37.98, SD = 8.16).

A point-biserial correlation was run to determine the relationship between Generalised Anxiety Disorder-7 Item Score,Zung's Self-Rating Scale,and migration Status. There was a negative correlation between Generalised Anxiety Disorder-7 Item Score and migration Status, which was statistically significant (rpb = -1, n = 2, p = aN).Therewas a positive correlation between Zung's Self-RatingScale and migration Status, which was not statistically significant (rpb = 0.03, n = 60, p = .812).

Discussion:-

Our study revealed that the prevalence of depression was only 11.7 % among Nursing students contrary to the studies conducted atAppolo Institute, Hyderabad by Das(67.7% in 2021); IPGMER, Kolkata by Basu(33.33% in 2016) and Chatterjee(63.9 % in 2014) and Assam Medical College by Baruah(55% in 2021) which revealed a high prevalence of Depressive disorders among Nursing students.

All detected with depression only had mild grades in Zung's rating scales. Among them 87.5% of them were migrants and 22.5% were non-migrants. The overall prevalence of anxiety disorders was 57.5% in the study population of which 78% were migrants.

This was consistent with the studies by Basu et. Al(56.69%) and Baruah et.al (63.1%); whereas Das et.al showed a higher prevalence of 85.3%.

79 % of the migrants had mild to moderate Anxiety symptoms and 62.5 % of non-migrants had Anxiety symptoms.

The odds that the Migrant population would develop either depressive disorder or anxiety disorder was 3.63 times higher as per the logistic regression analysis.

A study by Devu JK which was a meta-analysis comprising of 12 different studies conducted on nursing students which concluded that during nursing education, students face moderate to high levels of stress from a multitude of

stressors (exam stress, assignments, administering nursing care, night duties). It was observed in general that the coping strategies employed by the students are not effective in tiding over their stress.
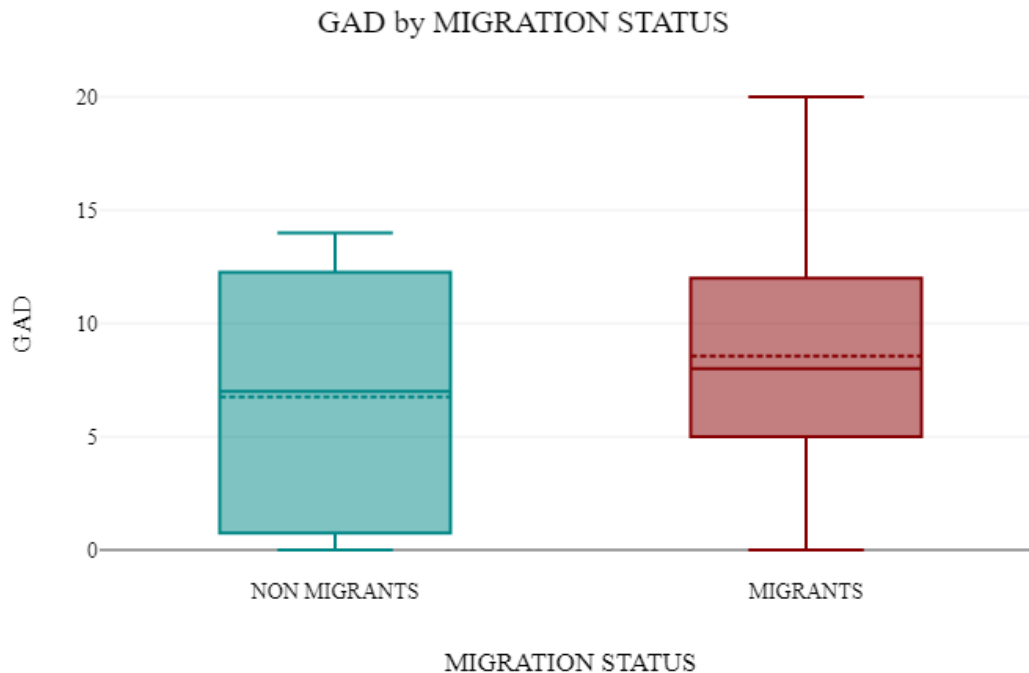

Figure 5:- Box-Whisker plot depicting the correlation between Generalised Anxiety Disorder-7 Item Score and Migration Status.

Conclusion:-
1. There is a high prevalence of anxiety disorders among Nursing students.
2. There is a higher prevalence of anxiety disorders among migrants as opposed to non-migrants.
3. A positive correlation was present between Migration and Anxiety disorders.
4. Prevalence of depressive disorders was lesser than expected.

Limitations Of the Study:
1. Small sample size
2. Short duration of study
3. Single centric study

No conflicts of interest.

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