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RESEARCH ARTICLE

Prevalence Of Depression Among Arts, Science, And Engineering Students In Medchal-Malkajgiri District., Telangana.

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ABSTRACT
The present survey aimed to determine the prevalence of depression among arts, science, and engineering students, A cross-sectional survey among a random sample of students (N=375) enrolled from different colleges in the Medchal Malkajgiri who responded to the PHQ9 questionnaire and demographics associated with depression. To put it briefly this observation found that depression affects a sizeable portion of students in their 20s and 30s, mostly male students. Examining the contributing factors—such as living situations, family income, alcohol consumption, nutrition, and nicotine—it was discovered that several activities and characteristics were linked to a higher incidence of depression.

Keywords: Prevalence, Depression, Arts, Science & Engineering Students.

Background

Depression is a pervasive mental health condition affecting millions globally, with a prevalence of approximately 4.4%. Its impact varies across demographics, with higher rates among women and youth. Postpartum depression affects 10-20% of new mothers, emphasizing the unique challenges of the postpartum period. Workplace stressors contribute to higher rates among working adults, necessitating behavioral health at work interventions. Technology's influence on depression, especially in younger populations, is an evolving concern. Geographical disparities highlight variations in reporting, and pioneers and members of the military face higher rates due to unique stressors. Infancy and teen depression, influenced by family environment and genetics, underscore the importance of early detection and intervention [1].

Depression can be classified into mild, moderate, or severe severity. Clinical manifestations include agitation, loss of appetite, suicidal ideation, weight gain or loss, anxiety, decline in interest, mood swings, sadness, irritability, reduced self-worth, and personal confidence. Risk factors for depression include psychological, biochemical, environmental, and hereditary variables. Accurate diagnosis and intervention depend on seeking expert assistance.

Prevalence of depression varies across age ranges, with teenagers and early adults experiencing depression, mid-life with career changes and family responsibilities, older adults with chronic health conditions and social isolation, and late-life depression linked to bereavement and cognitive decline.

Depression prevalence varies globally, with women experiencing higher rates than men. Factors such as biological and socio-cultural factors contribute to this disparity. Living arrangements, whether alone or with family members, also play a role in depression rates. Living alone may lead to greater depression rates, with estimates ranging from 15% to 30%. The familial environment provides a built-in social support network, fostering emotional connection and shared responsibilities [2].

Religion plays a significant role in promoting mental well-being within Hindu, Muslim, and Christian beliefs. Hinduism incorporates yoga and mindfulness, while Islam values psychological well-being through prayer and communal support. Christianity has different mental health perspectives, with some prioritizing apostolic assistance and guidance, while others may exhibit stigma or negative perceptions.

Marital status is linked to major depression, with later-life depression independently predicted by gender and age interactions. Financial burdens can contribute to stress and affect mental health, with students' financial stability negatively impacting their overall well-being. Family income also significantly influences mental wellness, with

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family dysfunction serving as an alternative root of vulnerability to depression [3].

Cigarette smoking has increased among youth populations, with 17.7-40% having experimented with or currently engaging in vaping. However, concerns have been raised that these products may introduce them to nicotine, potentially leading to the dual use of cigarettes and combustible cigarettes. Alcohol consumption and depression share a complex relationship, with excessive or persistent drinking potentially causing or exacerbating depression. It is crucial to be vigilant about alcohol consumption and seek help if needed if you have experienced depression or are at risk.

Depression is often associated with insufficient nutrition, which can lead to the onset, intensity, and course of depression. Eating habits can significantly impact the onset, intensity, and course of depression, with parallels between eating patterns before and during depression. Mental diseases such as obsessive-compulsive disorder (OCD), bipolar disorder, depression, and schizophrenia are prevalent in many countries. The history of mental illness in families suggests that children of depressive parents are more susceptible to experiencing psychological problems [5-4].

Medical comorbidities, such as cardiovascular diseases and diabetes, often coexist with depression, and the correlation between them is often mutual. Depression symptoms can arise due to lifestyle changes and stress related to these conditions. Debt and debt can also lead to depression, as individuals may face significant psychological effects from financial stress [6-7].

Approximately 3.8% of the global population experiences depression, with women experiencing it 50% more frequently than men. Over 700,000 people die from suicide each year, and self-harm is the 4th biggest contributor to death in 15 to 29-year-olds. Australia has the largest share of depression among the elderly, while Telangana has the 3rd highest number of anxiety-related disorders [8].

Students also face higher depression rates due to heavy workloads, societal expectations, and demanding subjects. Moderate depression is more common in arts students, with extremely severe and moderate anxiety being higher in arts students.

Depression is a major mental illness affecting individuals worldwide, causing significant personal, societal, and monetary burdens. Treatment options include cognitive behavior therapy, psychotherapy, medications, lifestyle modifications, counseling services, awareness programs, and stress reduction. Prevention involves promoting awareness programs and supporting chronic illness patients. Early intervention is crucial for preventing symptoms from worsening and improving overall quality of life. The survey highlights the importance of addressing patient safety and quality of life to reduce the potential for illness and increase energy levels. Determine the prevalence of depression among Arts, Science, and Engineering students in Medchal-Malkajgiri dist., Telangana.

METHODOLOGY

This cross-sectional study was conducted in Medchal-Malkajgiri District, Telangana, from August 2023 to January 2024. The Rao soft calculator determined the sample size with an estimated 336 participants. The study criteria included participants of both genders, individuals over 18 years old, those who gave valid informed consent, and literature. Exclusion criteria included participants under 18 years old, those who disagreed with the research, and illiterates.

The study used a PHQ-9 questionnaire, which consists of 9 multiple-choice questions. The questionnaire was individually given to participants and included demographic information, such as age, gender, religion, level of education, income, and family history of depression. The questionnaire was evaluated using statistics. The PHQ-9 questionnaire has a Cronbach's α of 0.89 and was developed without permission. It was reviewed by experts in the field and obtained ethical clearance from Geethanjali College of Pharmacy-IRB. The project was acknowledged by the IRB, ensuring the validity and relevance of the research.

STATISTICAL ANALYSIS:

Computer software (SPSS-Version 26.0) accustomed to performing statistical analysis.

S.D. means, frequencies, and percentages were the interpretative stats worked out. Depending on the data gathered, both statistical and non-statistical evaluations (parametric and non-parametric) are performed. The chi-square test was applied correctly.

According to statistics noteworthy "p" value is < 0.05 is significant.

RESULTS AND DISCUSSION

All the participants who enrolled throughout this research gave their consent and filled out the complete questionnaire on Depression (PHQ9) only their data is being recorded by maintaining their anonymity. Three hundred and seventy-five students within age groups of 20-30 years were taken into the survey and the results of the study were calculated.

Table -1 SOCIODEMOGRAPHIC CHARACTERISTICS TAKEN IN THE STUDY:

DEMOGRAPHICS/VARIABLES		FREQUENCY	%	X²	P value
AGE	< 20 yrs	42	11.2	51.739a	0.000
	20 - 25 yrs	253	67.5		
	25 - 30 yrs	80	21.3		
SEX	Male	228	60.8	3.207a	0.668
	Female	147	39.2		
RESIDENCE	Lives alone with Friends	236	62.9	30.601a	0.000
	Lives with his/her family / Parents	139	37.1		

RELIGION	Hindu	224	59.7	**21.242a**	**0.019**
	Muslim	85	22.7		
	Christian	66	17.6		
MARITAL STATUS	Single	356	94.9	**6.522a**	**0.259**
	Married	19	5.1		
EDUCATION STATUS	Arts	121	32.3	**59.594a**	**0.000**
	Science	127	33.9		
	Engineering	127	33.9		
TUITION FUNDING	Government	114	30.4	**17.611a**	**0.062**
	NGO	101	26.9		
	Self	160	42.7		
FAMILY INCOME	15000/-	54	14.4	**54.534a**	**0.000**
	15000 - 30000	209	55.7		
	30000 - 50000	90	24.0		
	Above 50000	22	5.9		
SMOKING	Yes	145	38.7	**12.954a**	**0.024**
	No	230	61.3		
ALCOHOL CONSUMPTION	Never	179	47.7	**32.625a**	**0.000**
	Occasionally	180	48.0		
	Frequently	16	4.3		
DIET CATEGORIES	Good/Healthy	134	35.7	**35.842a**	**0.000**
	Processed/Unhealthy	241	64.3		
FAMILY H/O 0F MENTAL ILLNESS	Yes	97	25.9	**28.200a**	**0.000**
	No	278	74.1		
MEDICAL COMORBIDITIES	Yes	140	37.3	**41.845a**	**0.000**
	No	235	62.7		
DEBT/LOAN	Yes	249	66.4	**31.371a**	**0.000**
	No	126	33.6		

Table 2 PREVALENCE OF DEPRESSION AMONG ALL PARTICIPANTS

SEVERITY	Frequency	Percentage
No	7	1.9
Minimal depression	9	2.4
Mild depression	121	32.3
Moderate depression	180	48.0
Moderately severe depression	56	14.9
Severe depression	2	0.5
Total	375	100.0

Among 375 students who enrolled for this study 238(63.4%), students prevalent depression ranging from moderately to the extreme of which 253(67.5%) students fall in the range of 20-25yrs,80(21.3%) are within the age range between 25-30 yrs,42(11.2%) belong to age group < 20 yrs of which majority are males 228(60.8%) compared to females 147(39.2%).236(62.9%) students live alone with Friends whereas 139(37.1%) live with his/her parents belonging to the religion of Hindus 224(59.7%), Muslims 85(22.7%) and Christians 66(17.6%), married students are 19 (5.1%) and single are more in number 356(94.9%) .127(33.9%) members are from eng stream also science students who took part in the research project are in equal proportion with engineering students and 121(32.3%) were art students.[7]-(Fig.1). Tuition Funding (T. F) for 114(30.4%) is from the government (Govt) ,101(26.9%) is from non-government organization (NGO) whereas majority 160(42.7%) are Self-Funded students (SFS)-(Fig 2). Several students 209(55.7%) exhibit a family income of 15,000-30,000, followed by 90(24%) with F. I of 30,0000-50,000;54(14.4%) with F. I of less than 15,000 and 22(5.9%) are with F. I have more than 50,000-(Fig.3). Most of the students do not smoke 230(61.3%) whereas 145(38.7%) students are prone to smoking. The people who never imbibe alcohol are 179(47.7%), Individuals who occasionally consume are 180(48%), and those who frequently consume alcohol are 16 (4.3%). coming to diet categories majorly observed category is processed food in 241(64.3%) in contrast to a nutritious diet in 134(35.4% The family h/o of schizophrenia is absent in 278(74.1%) and present in 97 (25.9%). students without any medical comorbidities are high in number 235(62.7%) rather than with the existence of concomitant illnesses 140(37.3%). The students in debt are more in number 249(66.6%) in comparison with students having no debts 126(33.6%) - (Fig 4).
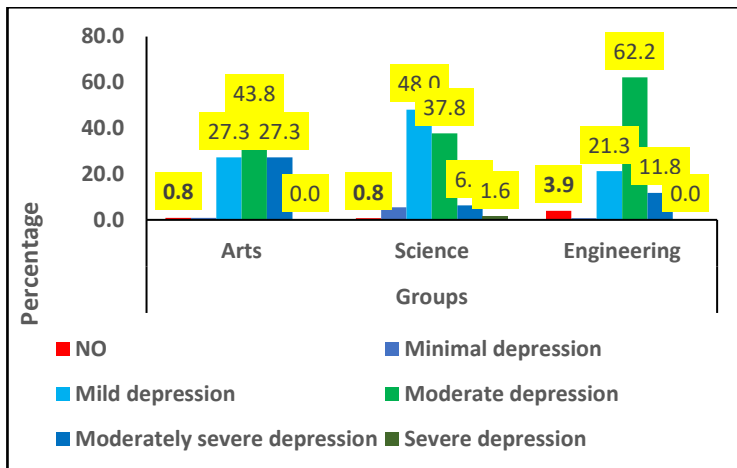
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Fig.1 Histogram showing education with severity of depression
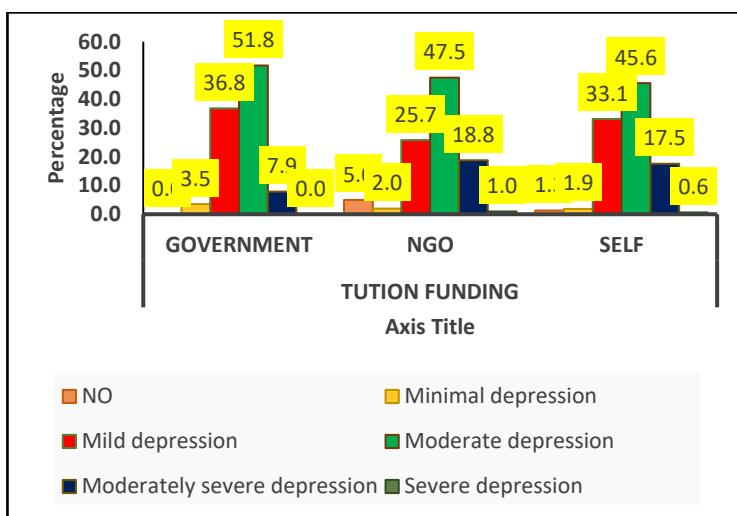

Fig.2 Histogram showing tuition funding concerning depression
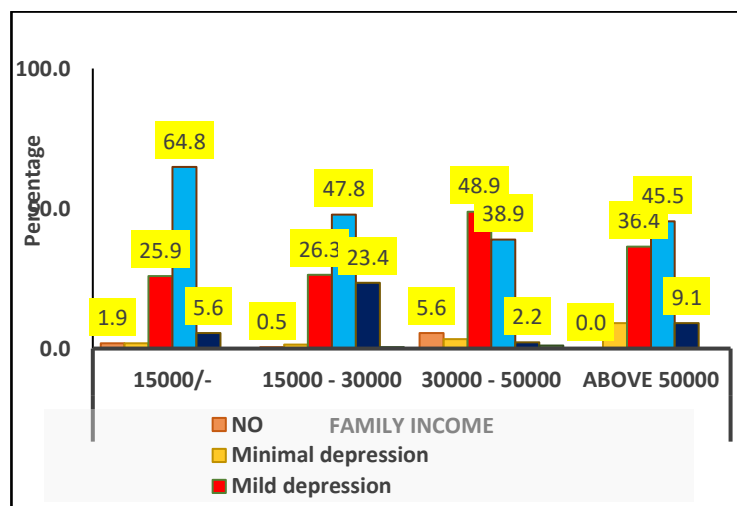

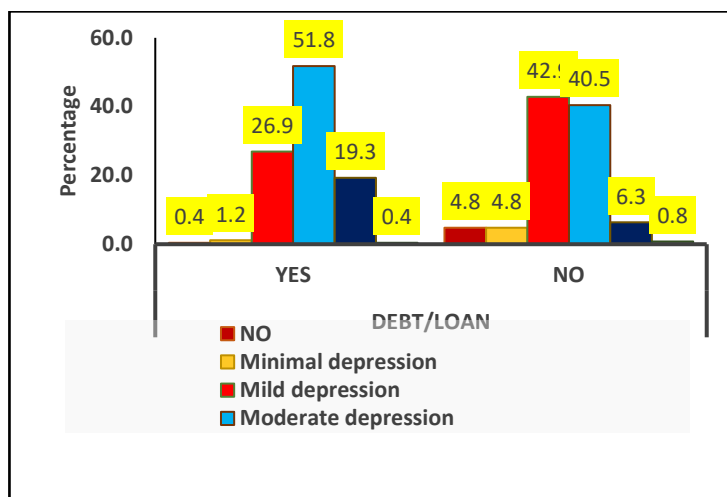**Fig. 3 Histogram of Family income with severity of depression**

Fig.4 Histogram demonstrating debt/loan with severity of depression.

Google Trends displaying depression search intent by the district on geographic maps of Telangana State.
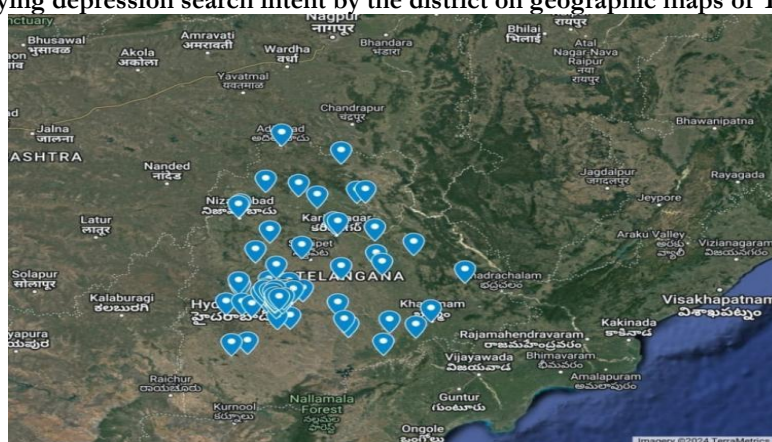

Fig.5 Shows the prevalence of participants.

Because of variations in sample collection, an uneven prevalence of depression appears throughout Telangana's districts and regions. In This Survey, the majority of the students who are prone to depression belong to the Secundrabad zone.

DISCUSSION
This study surveyed 375 students aged 20-30 years, with 63.4% experiencing depression. Of these, 253 (67.5%) were males, while 42 (11.2%) were under the age band of < 20 years. Many students lived alone with friends, while 37.1% lived with their parents. Most students were from engineering, science, and artistic entities. Tuition funding for 114 (30.4%) came from the government, 26.9% from non-government organizations, and 42.7% from self-funded students [8].

Most students had an F. I of 15,000-30,000 rupees, with 24% having an F.I. of 30,0000-50,000 rupees, 14.4% having an F.I. of < 15,000, and 5.9% having an F.I. of > 50,000 rupees Most Candidates did not smoke, and 47.7% consumed alcohol. The most prominent diet category was processed food, with 64.3% of students consuming processed food [9].

The bulk of distressed college students were Christian, followed by Muslims, Hindus, and singles. Marriage lowers the unlikely event of depression in depressed undergraduates, as they receive encouragement derived from their bonds and are emotionally less affected by traumatic events. Eng students were the most affected, followed by science students. Tuition support was mainly received from NGOs, followed by self-funding and the government.

Among the 238 depressed students, 97 (66.9%) smoke regularly, and their prevalence of depression is higher than that of non-smokers. Of the 238 students probably going into confrontation depression, 62.8% have not tasted alcohol, 75.5% consumed alcohol occasionally, and 68.8% consumed alcohol frequently. Depression rates spiked among students who adopted a healthy diet [11-13].

Inside the study's scope, 238 devastated students were organized into groups two groups: 158, or 56.8%, who had no previous record of emotional disorders, and 80, or 82%, who faced. It was shown that 102 students (79.9%) with ailments had depression, which equated to a less frequent occurrence among pupils without other medical conditions [10].

CONCLUSION
In conclusion, this study spotted that a significant percentage of students aged 20 to 30 years experience depression, with the majority being males. The components that fall like living arrangements, family income, alcohol intake, nourishment, and nicotine were also examined, and it was found that certain demographics and behaviors have been traced to hiked rates of depression. Additionally, there was evidence suggesting a

family predisposition to bipolar disease to be a significant factor in the prevalence of depression among students.

Given time constraints, the surveys were undertaken within a limited timeframe of 6 months. Efficiency was prioritized in the aforementioned studies, resulting in a concise research period. Follow-up studies could be taken to ascertain other possible risk factors, especially culture-related risqué indicators like conflict in values, acculturative stress, interdependence, and intergenerational differences, and to gauge the risk attribution for each influential component to depression to plan for interventions. Intervention studies targeting the established risk factors can be done to figure out the best intervention model that can be adopted to mitigate the burden of the disease.

Competing interests-

The authors declare that they have no competing interests.

Authors contribution-

B. Sai Sree Reddy**,** E. Bhanusree, Zeeshan Fatima & P. Hemasri surveyed, analyzed, and documented the manuscript. Dr. R. Naga Kishore guided in the preparation of the manuscript.

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