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ASSESSMENT OF UNDIAGONISED ANXIETY AND DEPRESSION IN PATIENTS ATTENDING TERTIARY CARE TEACHING HOSPITAL AND ROLE OF CLINICAL PHARMACIST IN MANAGEMENT

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Abstract

Background: This research focuses on observing the mental health conditions of patients who are suffering from undiagnosed anxiety and depression attending tertiary care teaching hospital. We have evaluated and observed the number of participants of the study are being suffered and assessed the role of clinical pharmacist in identification and management. **Methodology:** The present study is a prospective observational analytical study involving 135 study participants who are having anxiety & depression but are being undiagnosed at tertiary care hospital Anil Neerukonda Hospital in Vizianagaram district. The Information was obtained through direct interaction with patients from different departments and they're diagnosed using State Trait Anxiety Scale (STAI) and Beck Depression Inventory Scale (BD-II). **Results:** In the study, we reported a prevalence of 51% suffering from anxiety, 32% are suffering from depression and 17% are suffering from both anxiety and depression. Among these 13% of the study participants are of Low/No Depression, 6% with Moderate depression and 2% with Severe Depression. Whereas participants with anxiety were reported as 9% suffering with Low/No Anxiety, 12% with Moderate Anxiety and 0.7% suffering from High Anxiety Levels. **Conclusion:** Patients who are suffering from undiagnosed anxiety and depression are found to be experiencing trauma, stress and other psychological issues which affects their mental health condition.

Keywords: STAI (State Trait Anxiety Scale), BD-II (Beck Depression Inventory Scale), Anxiety, Depression, Anil Neerukonda Hospital.

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Introduction

Anxiety is defined as the frequent mental health disorder which is mainly associated with disturbance in mood or emotions of a person as well as physiological & psychological behavior. Depression is characterized by decreased activity, feeling sad, severely disturbed or affected by something and sometimes which leads to suicidal attempts and thoughts. These mental conditions are being neglected by physicians, medical health practitioners by some reason in hospitals which is leading them to remain undiagnosed. Nearly populations of 4.05% globally are having anxiety disorder & the persons affected have increased by more than 55% from 1990 to 2019. In India nearly 16.6% of patients have been suffering from anxiety in 2019. Globally 300 million people which is equal to 4.3% of world's population are suffering from depression in the year 2015. And in India, National Mental health survey revealed in 2015-16 that nearly 15% of Indians are suffering from depression.

According to WHO, There are 5 types of Anxiety disorders

- i. **Generalised Anxiety Disorder:** Worrying about daily life.
- ii. **Panic Disorder:** Having Panic Attacks or Fear.
- iii. **Social Anxiety Disorder:** Having fear about social situations which make them feel embarrassed or humiliated.
- iv. **Agoraphobia:** Feeling Helpless or trapped
- v. **Separation Anxiety Disorder:** worrying about being separated from people with whom they have emotional bonding.

Whereas the Depression disorders are classified as

- i. **Major Depression:** Where the particular person loses interest and pleasure in his enjoyable activities.
- ii. **Persistent Depressive Disorder:** This type is kind of mood that might affect the people for more than 2 years.
- iii. **Manic Depressive Disorder:** Also Known as Bipolar Disorder which affects the person with episodes of depression.

The etiological factors that might cause anxiety and depression might be Biological factors like Genetic factors, Hormonal factors and neurochemical imbalances etc; Psychological factors like Childhood experiences and trauma etc; Environmental factors like Stressful life events, Substance abuse etc; & Medical factors like Chronic illness, Medication side effects, neurological disorders etc.

Background of the study

Mental health disorders such as Anxiety and depression, are also leading factors of disability all over the world. Despite their increasing burden worldwide, the conditions mostly remain undiagnosed and untreated, particularly in general hospital settings, where the focus is typically on physical disorders. Patients attending to tertiary care teaching hospitals often suffer from unmarked psychiatric symptoms that can impact treatment outcomes and their quality of life. Clinical pharmacist are essential members of healthcare team and place a key role in addressing the gap. Their knowledge in patient counselling, medication management and disease education make them ideal for recognising early signs of anxiety and depression and also provides psychoeducation and helps in managing pharmacotherapy along with physicians and psychiatrists. By integrating psychological screening into general clinical pharmacy practice, that helps to improve early detection and intervention. This can enhance reduce medication related problems patient adherence and contribute to better treatment outcomes.

Therefore, the study aimed to assess the prevalence of undiagnosed anxiety and depression in patients attending a tertiary care teaching hospital and to evaluate the effectiveness of clinical pharmacist interventions in their identification and management.

Scope of the study

The present study aims to assess the prevalence of undiagnosed anxiety and depression among patients attending a tertiary care teaching hospital, highlighting the critical need for early identification and intervention of mental health disorders in a general hospital setting. This study also evaluates the vital role of clinical pharmacists in the management of these conditions through patient education, medication review, counselling, and collaborative care with physicians. By focusing on undiagnosed cases, the research underscores gaps in routine screening practices and emphasizes the importance of integrating clinical pharmacy services into mental health care. The findings are expected to contribute toward improving patient outcomes, enhancing quality of life, and promoting a multidisciplinary approach in the management of anxiety and depression within hospital settings.

Limitations

This study on the assessment of undiagnosed anxiety and depression in patients attending a tertiary care teaching hospital, and the role of clinical pharmacists in their management, has several limitations. Firstly, the study's findings may not be generalizable beyond the specific population or geographic location in which it was conducted, as patient demographics and access to mental health services can vary widely. Secondly, the diagnosis of anxiety and depression was based on screening tools and self-reported symptoms, which may lead to underreporting or overreporting due to stigma or misunderstanding of the questions. Thirdly, the study duration may have been insufficient to fully observe the long-term impact of clinical pharmacist interventions. Additionally, the lack of a control group limits the ability to measure the exact contribution of the pharmacist compared to usual care. Finally, potential biases in patient selection and the subjective interpretation of mental health status by different healthcare providers may also affect the accuracy and consistency of the results. Despite these limitations, the study highlights the crucial role of clinical pharmacists in early identification and management of mental health conditions in a hospital setting.

Materials and Methods

The study was carried out in all the departments at Anil Neerukonda Hospital (ANH), Visakhapatnam which tertiary care facility in all the departments and other medical services. It is renowned for its patient care and advanced treatment options. This study is a prospective observational study involving 135 patient individuals with different conditions receiving treatment at tertiary care hospital. Participants were enlisted following the provision of written consent via Informed Consent Form (ICF). The research lasted for duration of 8 months. The study population's inclusion criteria included people of either gender who were between the ages of 18 to 55 years of any diagnosis, who demonstrated a readiness to engage in the study by submitting Informed consent form. Those falling below 18 years of age or exceeding 55 years of age, as well as those failing to complete an informed consent form, were excluded from participation.

Inclusion

- Adults of age 18 to 55 years old diagnosed by any disease are included.
- Patients who exhibited symptoms of anxiety or depression as measured by BDI-II and STAI are included.
- Patients with Chronic Cases, Post Surgery Cases, and Neurologically Stable Patients are involved in this study.
- Patients who signed informed consent form to participate in the study.

Exclusion

- Patients who are aged below 18 years and above 55 years
- Patients with severe psychiatric conditions like schizophrenia, bipolar disorder or Psychosis are excluded.
- Patient with current substance abuse or dependence issue are excluded.
- Patients who did not provide complete information to the tools used in the study or instructions used in the study (missing data).
- Patients who have not signed informed consent form to participate in the study.
- Pregnancy individuals are excluded due to potential risks.
- Patients who have already been diagnosed with anxiety and depression in several cases in their past are excluded.

Data Collection

- Throughout the study, data was collected by directly engaging with patients who met inclusion criteria and consented to participate after being informed about the study.
- The data was gathered via structured questionnaires during direct interaction with patients suffering from different diseases.

Tools Used in the Study

- A. Proforma:** We designed structured questionnaires with standardized psychological scales to assess undiagnosed anxiety and depression. They cover all the demographic details, past medical and medication history, lifestyle factors, social and financial status and significant questions. We developed separate tools which focuses on emotional well-being including symptoms like distress. These tools help in early detection and also highlighting psychological resilience and adaption.
- B. State Trait Anxiety Inventory Scale (STAI):** State Trait Anxiety inventory scale is a 4-point likert scale which was developed by Charles spielberger, R.L.Gorsuch and R.E.Lushene. This form consists of 20 questions with total scoring range from 20-80. In our study severity ranges of score are as follows: Less than 30 = Low or No Anxiety, 33-49 = Moderate Anxiety, 50 and above = High Anxiety.
- C. Beck Depression Inventory Scale-II (BD-II):** Beck Depression Inventory scale -II is most widely used screening instrument for measuring the severity of depression mainly in adults which was developed by Mc Dowell and Newell in 1996. It is composed of questions related to depressive symptoms like hopelessness, Irritability, guilt, fatigue etc., Beck Depression Inventory scale scoring ranges are as follows: 0-13= No Depression, 14-19= Mild Depression, 20-40 = High Depression.

DATA ANALYSIS

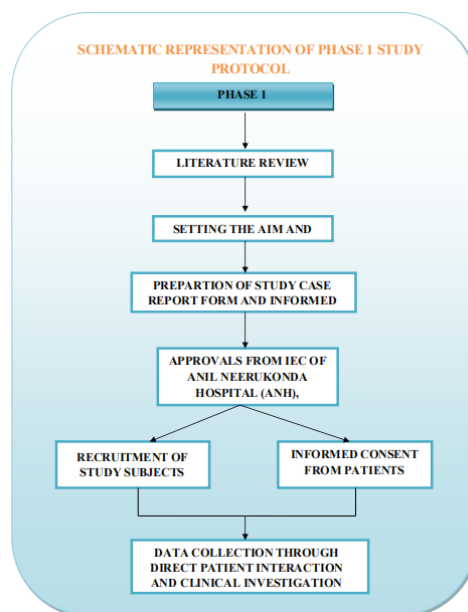


Figure 1: Schematic representation of phase 1 study protocol

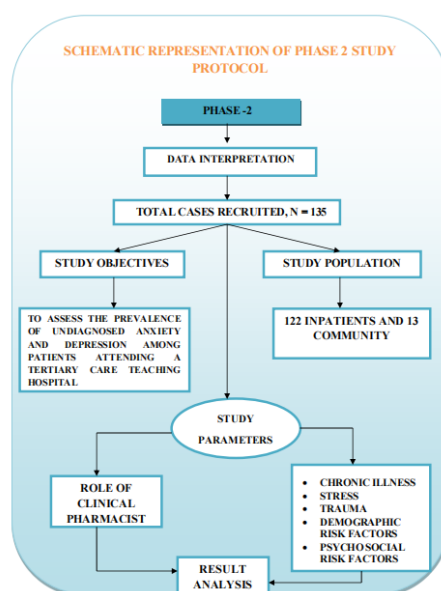
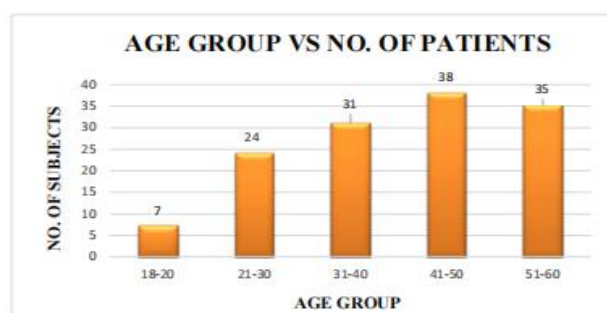


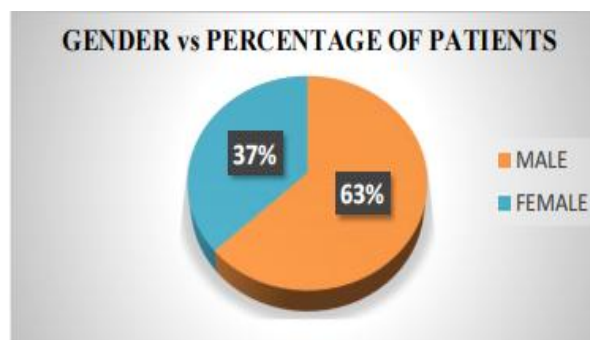
Figure2: Schematic representation of phase 2 study protocol

Results

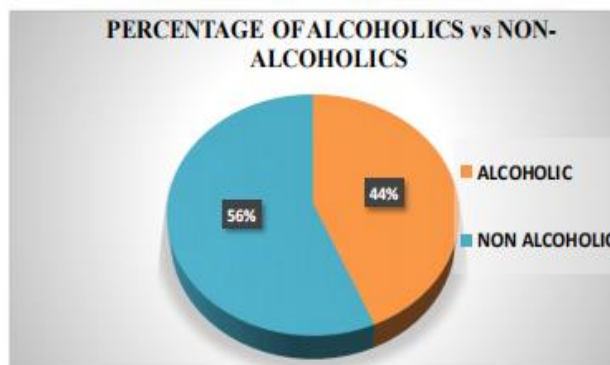


Graph1: Age wise Distribution of the study population

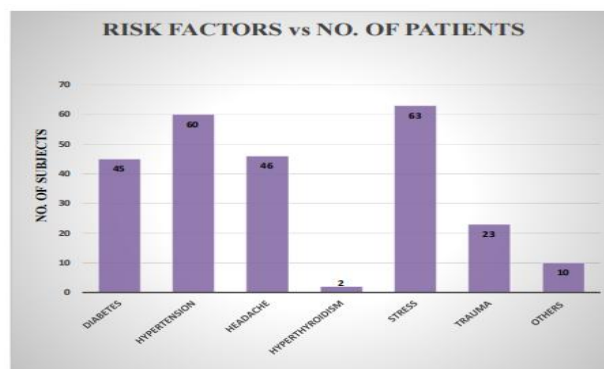
According to study on 135 patients most affective 28% belong to age group between 41- 50 years, 26% belong to age group between 51-60 years, 23% belong to age group between 31- 40 years, 18% belong to age group between 21- 30 years, 5% belong to age group between 18- 20 years.



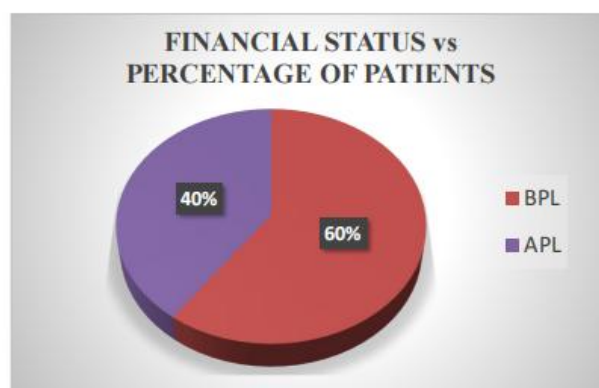
Graph 2: Gender wise distribution of the study population
Study states, Majority were males with 63% and the other 37% were female.



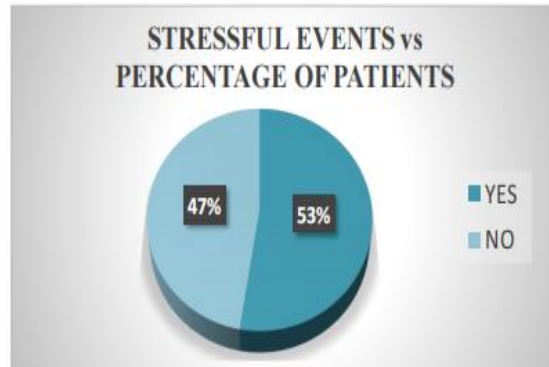
Graph 3: Alcoholics vs non-alcoholics of the study population
Out of 135 study participants, non-alcoholics were 56% and alcoholics were of 44%.



Graph 4: General Physical Examination of the study population
Among 135 patents, 25% of patients experienced stress and 24% patients with HTN were highly reported, while hyperthyroidism with 1% & other experiences with 4% were least reported.

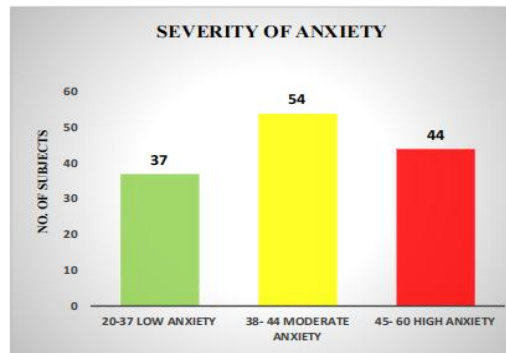


Graph 5: Financial status wise distribution of the study population
Findings within 135 patients, 81 were Below poverty line with 50% & other 54 were Above poverty line with 40%.



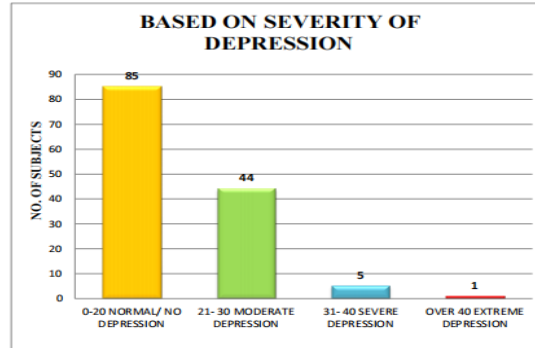
Graph 6: Stressful events in life wise distribution of the study population

According to analysis, among 135 patients i.e. 71 patients were experienced stressful events with 53% and other 47% of patients did not report any stressful events



Graph 7: Severity of Anxiety wise distribution of the study population

Research concludes, majority of patients are having moderate anxiety i.e. 54 (40%), followed by high anxiety 44 (33%), and least number of cases with mild anxiety 37 (27%).



Graph 8: Severity of Depression wise distribution of the study population

Results represent out of 135 study population, majority of patients are having No Depression i.e. 85 (63%), followed by moderate depression 44 (32%), followed by severe depression 5 and least number of patients with severe depression 1 (1%). Out of 135 patients enrolled in our study, only 50 (37%) patients were depressed and remaining 85 (63%) were with no depression.

Table1: Representation of Correlation between Age and anxiety

AGE	FREQUENCY	PERCENTAGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
18-20	7	5.2%	2	1.48%	4	2.96%	1	0.74%
21-30	24	17.8%	8	5.93%	8	5.93%	8	5.93%
31-40	31	23%	5	3.7%	15	11.11%	11	8.15%
41-50	38	28.1%	10	7.41%	12	8.89%	16	11.85%
51-60	35	25.9%	12	8.89%	15	11.11%	8	5.93%

Table 2: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.56	0.003	28.7%	P<0.01	Significant
Column Factor	6.78	0.001	35.4%	P<0.01	Significant

Table 2: Represents "P" Value for the table

- The data indicates a variation in anxiety levels across different age groups, with the highest frequency of anxiety seen in individuals aged 41-50 years 38 (28.1%), followed by 51-60 years 35 (25.9%), followed by 31-40 years 31(23%), followed by 21-30 years 24 (17.8%), and 18-20 years 7 (5.2%).
- Mild anxiety is most commonly observed in the 51-60 age group 12 (8.89%), while moderate anxiety is more prevalent in the 31-40 and 51-60 age groups 15 (11.11%).
- High anxiety is most frequent in individuals aged 41-50 years 16 (11.85%), suggesting that middle-aged individuals may be more prone to severe anxiety.
- Younger individuals (18-30 years) show lower overall anxiety levels, but they still experience moderate and high anxiety, potentially due to academic, career, and personal stressors.
- The findings suggest a relationship between age and anxiety levels, with middle-aged individuals experiencing higher levels of anxiety compared to younger age groups.

Table 3: Representation of Correlation between gender and anxiety

GENDER	FREQUENCY	PERCENTAGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
MALE	85	62.96%	23	17.04%	36	26.67%	26	19.26%
FEMALE	50	37.04%	16	11.85%	17	12.59%	17	12.59%

Table 4: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.56	0.034	12.3%	P<0.05	Significant
Column Factor	8.45	0.001	45.6%	P<0.01	Significant

- The data suggests that males 85 (62.96%) experience anxiety more frequently than females 50 (37.04%).
- Among males, moderate anxiety is the most common 36 (26.67%), followed by high anxiety 26 (19.26%) and mild anxiety 23 (17.04%).
- Among females, the distribution of anxiety levels is relatively even, with mild anxiety 16 (11.85%), moderate anxiety 17 (12.59%), and high anxiety 17 (12.59%).

Table 5: Representation of Correlation between alcoholic consumption and anxiety

ALCOHOL CONSUMPTION	FREQUENCY	PERCENTAGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
ALCOHOLICS	59	43.7%	14	10.37%	23	17.04%	22	16.30%
NON-ALCOHOLICS	76	56.3%	25	18.52%	30	22.22%	21	15.56%

Table 6: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	2.95	0.049	14.7%	P<0.05	Significant
Column Factor	6.84	0.002	38.2%	P<0.01	Significant

- The data indicates that both alcoholics and non-alcoholics experience anxiety, but with some differences in distribution.
- Among alcoholics 59 (43.7%), moderate anxiety 23 (17.04%) and high anxiety 22 (16.30%) are nearly equal, while mild anxiety 14 (10.37%) is lower.
- Non-alcoholics 76 (56.3%) show a higher percentage of mild 25 (18.52%) and moderate anxiety 30 (22.22%), but slightly lower high anxiety 21 (15.56%) compared to alcoholics.

Table 7: Representation of Correlation between risk factors and anxiety

RISK FACTORS	FREQUENCY	PERCENT AGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENT AGE	NO. OF SUBJECTS	PERCENT AGE	NO. OF SUBJECTS	PERCENT AGE
DIABETES	45	33.33%	10	7.41%	19	14.07%	16	11.85%
HTN	60	44.44%	14	10.37%	27	20%	19	14.07%
HEADACHE	46	34.07%	22	16.30%	16	11.85%	8	5.93%
HYPERTHYROIDISM	2	1.48%	0	0%	0	0%	2	1.48%
STRESS	63	46.67%	18	13.33%	22	16.30%	23	17.04%
TRAUMA	23	17.04%	3	2.22%	7	5.19%	13	9.63%

Table 8: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.12	0.003	21.6%	P<0.01	Significant
Column Factor	7.89	<0.001	48.3%	P<0.001	Significant

Table 8: Represents "P" Value for the table

- Stress 63 (46.67%) and hypertension (HTN) 60 (44.44%) are the most common risk factors associated with anxiety.
- Stress shows the highest prevalence of high anxiety 23 (17.04%), indicating its significant impact on mental health.
- Hypertension (HTN) is also strongly linked to moderate anxiety 27 (20%) and high anxiety 19 (14.07%), suggesting a possible connection between chronic health conditions and anxiety.
- Diabetes 45 (33.33%) and headaches 46 (34.07%) contribute to anxiety, with headaches showing higher mild anxiety levels 22 (16.30%).
- Trauma 23 (17.04%) is a notable risk factor, with 13 (9.63%) of individuals experiencing high anxiety, highlighting its long-term psychological effects.
- Hyperthyroidism 2 (1.48%), though less frequent, is associated with high anxiety 2 (1.48%), aligning with its known impact on mood disorders.
- The data suggests that chronic health conditions, stress, and past trauma play a major role in anxiety levels, requiring targeted interventions for better mental health outcomes.

Table 9: Representation of Correlation between financial status and anxiety

FINANCIAL STRUCTURE	FREQUENCY	PERCENTAGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
BPL	81	60%	22	16.3%	29	21.48%	30	22.22%
APL	54	40%	17	12.6%	24	17.78%	13	9.63%

Table 10: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.56	0.034	12.3%	P<0.05	Significant
Column Factor	3.78	0.028	10.8%	P<0.05	Significant

- A higher proportion of individuals belong to the Below Poverty Line (BPL) category 81 (60%), while 54 40% are from the Above Poverty Line (APL) category.
- Moderate anxiety 29 (21.48%) and high anxiety 30 (22.22%) are more prevalent among the BPL group, indicating a possible link between financial instability and increased anxiety levels.
- Individuals from the APL group exhibit lower rates of high anxiety 13 (9.63%), suggesting that financial stability might contribute to reduced anxiety. Mild anxiety levels are slightly higher in the APL group 17 (12.6%) compared to the BPL group 29 (16.3%), but the difference is not significant.

Table 11: Representation of Correlation between stressful events and anxiety

STRESSFUL EVENTS	FREQUENCY	PERCENTAGE	MILD ANXIETY		MODERATE ANXIETY		HIGH ANXIETY	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
YES	71	52.59%	20	14.81%	25	18.52%	26	19.26%
NO	64	47.41%	19	14.07%	28	20.74%	17	12.59%

Table 12: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	0.366	0.578	229.06%	P>0.05	Not Significant
Column Factor	0.366	0.578	233.33%	P>0.05	Not Significant

- A higher percentage 71 (52.59%) of individuals reported experiencing stressful events, while 64 (47.41%) did not.
- Among those who experienced stress, high anxiety 26 (19.26%) and moderate anxiety 25 (18.52%) were more prevalent.
- Individuals without stressful events had a slightly higher percentage of moderate anxiety 28 (20.74%) compared to those with stress 25 (18.52%).
- However, high anxiety was more common in the stress group 26 (19.26%) than in the non-stress group 17 (12.59%), suggesting that stress may contribute to severe anxiety.

Table 13: Representation of Correlation between age and depression

AGE	FREQUENCY	PERCENTAGE	MODERATE DEPRESSION		SEVERE DEPRESSION		EXTREME DEPRESSION	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
18-20	1	2%	1	2%	0	0%	0	0%
21-30	9	18%	8	16%	1	2%	0	0%
31-40	11	22%	9	18%	2	4%	0	0%
41-50	14	28%	11	22%	2	4%	1	2%
51-60	15	30%	15	30%	0	0%	0	0%

Table 14: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	5.12	0.001	18.4%	P<0.01	Significant
Column Factor	4.89	0.008	15.7%	P<0.01	Significant

- The prevalence of depression varies across age groups, with the highest frequency observed in the 51-60 years age group 15 (30%), followed by 41-50 years 14 (28%), 31-40 years 11 (22%), 21-30 years 9 (18%), and the lowest in 18-20 years 1 (2%).
- Moderate depression is most common in the 51-60 years group 15 (30%), followed by 41-50 years 11 (22%) and 31-40 years 9 (18%).
- Severe depression is less frequent but is observed in individuals aged 21-50 years, with the highest cases in the 31-50 age group 2 (4%).
- Extreme depression is rare, with only 1 case (2%) found in the 41-50 age group.
- Younger individuals 18-30 years show lower overall depression levels, while middle-aged individuals, particularly those aged 41-60 years, experience higher levels of depression.

Table 15: Representation of Correlation between gender and depression

GENDE R	FREQUEN CY	PERCENTA GE	MODERATE DEPRESSION		SEVERE DEPRESSION		EXTREME DEPRESSION	
			NO. OF SUBJEC TS	PERCENTA GE	NO. OF SUBJEC TS	PERCENTA GE	NO. OF SUBJEC TS	PERCENTA GE
MALE	33	66%	28	56%	5	10%	0	0%
FEMAL E	17	34%	16	32%	0	0%	1	2%

Table 16: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	6.45	0.012	22.1%	P<0.05	Significant
Column Factor	5.78	0.004	19.8%	P <0.01	Significant

- The data suggests that males 33 (66%) experience depression more frequently than females 17 (34%).
- Among males, moderate depression is the most common (28 cases, 56%), followed by severe depression (5 cases, 10%), with no cases of extreme depression.
- Among females, moderate depression is seen in 16 cases (32%), while extreme depression is observed in only 1 case (2%), with no cases of severe depression.

Table 17: Representation of Correlation between alcohol consumption and depression

ALCOHOL CONSUMPT ION	FREQUEN CY	PERCENT AGE	MODERATE DEPRESSION		SEVERE DEPRESSION		EXTREME DEPRESSION	
			NO. OF SUBJEC TS	PERCENT AGE	NO. OF SUBJEC TS	PERCENT AGE	NO. OF SUBJEC TS	PERCENT AGE
ALCOHOLIC S	29	58%	25	50%	4	8%	0	0%
NON- ALCOHOLIC S	21	42%	19	38%	1	2%	1	2%

Table 18: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant?
Row Factor	3.78	0.025	15.2%	P<0.05	Significant
Column Factor	4.56	0.006	20.8%	P < 0.01	Significant

Table 18: Represents "P" Value for the table

- The data indicates that alcoholics (29 cases, 58%) have a higher prevalence of depression compared to non-alcoholics (21 cases, 42%).
- Moderate depression is more common among alcoholics (25 cases, 50%) than non-alcoholics (19 cases, 38%).
- Severe depression is observed in 4 alcoholics (8%), while only 1 non-alcoholic (2%) experiences severe depression.
- Extreme depression is reported in 1 non-alcoholic (2%), whereas no cases are recorded among alcoholics.

Table 19: Representation of Correlation between risk factors and depression

RISK FACTORS	FREQUE NCY	PERCENT AGE	MILD DEPRESSION		MODERATE DEPRESSION		HIGH DEPRESSION	
			NO. OF SUBJEC TS	PERCENT AGE	NO. OF SUBJEC TS	PERCENT AGE	NO. OF SUBJEC TS	PERCENT AGE
DIABETES	17	34%	15	30%	1	2%	1	2%
HTN	28	56%	24	48%	3	6%	1	2%
HEADACHE	17	34%	14	28%	2	4%	1	2%
HYPERTHYROI	1	2%	0	0%	0	0%	1	2%

DISM								
STRESS	24	48%	22	44%	2	4%	0	0%
TRAUMA	12	24%	10	20%	2	4%	0	0%

Table 20: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.56	0.001	20.3%	P<0.01	Significant
Column Factor	5.78	0.003	24.7%	P < 0.01	Significant

Table 20: Represents "P" Value for the table

- The data suggests that hypertension (HTN) is the most common risk factor, affecting 28 individuals (56%), followed by stress (24 individuals, 48%) and diabetes (17 individuals, 34%).
- Moderate depression is most prevalent among individuals with HTN (24 cases, 48%), stress (22 cases, 44%), and diabetes (15 cases, 30%).
- Severe depression is more commonly observed in those with HTN (3 cases, 6%), headaches (2 cases, 4%), stress (2 cases, 4%), and trauma (2 cases, 4%).
- Extreme depression is present in 1 case each among individuals with diabetes, HTN, headaches, and hyperthyroidism (2% each), while no cases were reported among individuals with stress or trauma.

Table 21: Representation of Correlation between financial status and depression

FINACIAL STRUCTURE	FREQUENCY	PERCENTAGE	MODERATE DEPRESSION		SEVERE DEPRESSION		EXTREME DEPRESSION	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
BPL	37	74%	31	62%	5	10%	1	2%
APL	13	26%	13	26%	0	0%	0	0%

Table 22: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.56	0.001	20.3%	P<0.01	Significant
Column Factor	5.78	0.003	24.7%	P < 0.01	Significant

- The data suggests that individuals from Below Poverty Line (BPL) backgrounds experience higher rates of depression, accounting for 37 cases (74%), compared to Above Poverty Line (APL) individuals (13 cases, 26%).
- Moderate depression is more prevalent among BPL individuals (31 cases, 62%), while all APL individuals with depression fall within the moderate category (13 cases, 26%).
- Severe depression is observed only among BPL individuals (5 cases, 10%), with no cases reported in the APL group.
- Extreme depression is seen in only 1 BPL individual (2%), while no APL individuals exhibit extreme depression.

Table 23: Representation of Correlation between stressful events and depression

STRESSFUL EVENTS	FREQUENCY	PERCENTAGE	MODERATE DEPRESSION		SEVERE DEPRESSION		EXTREME DEPRESSION	
			NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE	NO. OF SUBJECTS	PERCENTAGE
YES	31	62%	25	50%	5	10%	1	2%
NO	19	38%	19	38%	0	0%	0	0%

Table 24: Represents "P" Value for the table

Source of Variation	F Value	P Value	% of Total Variation	P Value Summary	Significant
Row Factor	4.23	0.018	16.7%	$P < 0.05$	Significant
Column Factor	2.78	0.042	22.4%	$P < 0.01$	Significant

The data indicates that individuals who have experienced stressful events exhibit a higher prevalence of depression (31 cases, 62%) compared to those who have not (19 cases, 38%).

Among individuals with a history of stressful events, moderate depression is the most common (25 cases, 50%), followed by severe depression (5 cases, 10%), and extreme depression (1 case, 2%).

PREVALENCE OF ANXIETY AND DEPRESSION IN STUDY POPULATION:

SCALE	NO. OF SUBJECTS	PERCENTAGE
ANXIETY	98	73%
DEPRESSION	50	37%
ANXIETY AND DEPRESSION	41	30%

- The data shows that anxiety is the most common condition, affecting 73% (98 individuals), followed by depression in 37% (50 individuals). Additionally, 30% (41 individuals) experience both anxiety and depression. This overlap suggests that many individuals struggling with anxiety are also at risk of depression. These findings highlight the need for early screening and proper mental health support to manage both conditions effectively.

Discussion

- The present study is to assess the prevalence of undiagnosed anxiety and depression among 135 patients attending Anil Neerukonda Hospital (ANH) which is tertiary care teaching hospital in visakhapatnam. Our study highlights the burden of anxiety and depression in different patient groups and assess the necessity for routine mental health screening and early intervention.
- A total of 135 participants have enrolled in the study where the age wise distribution showed that middle-aged adults are more prone to anxiety and depression, which was due to increased stress related to financial responsibilities, chronic illness and social interactions. This was highlighted in a study by Ilse M.J. Beljovw that middle-aged individuals with financial instability and poor social support are at higher risk of mental health disorder.
- Gender distribution shows that 63% were male and 37% were female. But research on COPD patients in Italy found that female patients reported high anxiety and depression compared to male. The low proportion of female states that our study might be under-reporting due to social obligations.
- Our study also examined the prevalence of alcohol use among participants, 44% are alcoholics and 56% are non-alcoholics. A research done by Ikram I. Mohammed et Al on substance use disorder found a significant association between anxiety and substance use which reported moderate to high anxiety. This emphasizes the need for addiction, counselling in mental health management.
- The most common risk factors identified in our study were stress (25%), Hypertension (24%), Headache (19%), and Diabetes (18%). These results combine with previous studies that highlights stress as a causative factor of anxiety in a survey done by Momin & Rodrigues.
- The economic status analysis of our study revealed that 62% belonged to moderate income, 28% to low income and only 10% belonged to high income background. Moreover 60% patients were below poverty line and this says that financial instability is linked to increased anxiety levels.
- Regarding stress-inducing life events, 53% of patients are experiencing stress which was highlighted in previous study that traumatic experiences lead to anxiety disorders. A study by Ching-I-Hung et Al demonstrated that stressful situations lead to increased depression severity over time.
- The correlation analysis highlights factors effecting anxiety and depression. Patients who experienced stressful events reported high rates of anxiety (52.59%) and Depression (62%). Family structure also played a role with individuals living in nuclear families exhibiting higher anxiety (87%) possibly due to reduced social support. Socio-economic status was another factor, as participants from moderate income background have higher prevalence of anxiety (62%) and depression (63%).
- The discussion further explores the necessity for changes to integrate mental health awareness into healthcare, ensuring better access to counselling and psychiatric services. By discussing economic problems, educating patients about mental health and enhancing therapeutic interventions, health care providers can decrease the prevalence impact of anxiety and depression within population.

Conclusion

This study highlights the high prevalence of undiagnosed anxiety and depression among patients in tertiary care hospitals, emphasizing the urgent need for routine mental health screening to prevent adverse health outcomes. Clinical pharmacists play a crucial role in bridging this gap by assisting in screening, patient education, and therapy management, ultimately enhancing mental health awareness and treatment adherence. Integrating mental health services into routine care through collaborative approaches involving physicians, pharmacists, and mental health professionals is essential to improve patient wellbeing and ensure holistic healthcare outcomes.

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Ethical Approval

Ethical clearance has been obtained from the Anil Neerukonda Hospital.

Inform Consent

Taken from Study Participants.

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Author Contribution

Both Authors contributed equally

Conflict of Interest

None Declared

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