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“A Cross sectional observational study to assess the depression in the pharmacy students of the Gujarat by using CESD - R scale”

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Abstract

Introduction: Depression is a mental disorder. There is evidence that university students are more likely to suffer from depression. A common complaint of which is decreased ability to perform daily normal tasks.

Methodology: This study was a Cross Sectional Observational Study, conducted to assess the depression test in the pharmacy student of Gujarat state by using the CESD-R scale. In this study, the CESD-R scale was used. The total sample size is 370. A statically analysis was done by using chi-square test, students T-test & ANOVA to compare the prevalence depressive symptoms.

Results: Among 370 students, 56.49% were males and 43.51% were females. A higher number of students with mild depression lived at home (35.32%). Students with severe depression lived at their relative's place (81.36%). In the 1st year number of severe depression, students were (67.19%). We found students studied in colleges of the east-central area had mild depression (18.65%), moderate depression (12.97%), and severe depression (33.78%). A higher number of M.pharm students had severe depression (70.83%).

Conclusions: This online survey included 370 students from Gujarat. In this study, male's students were found more than female. Students who studied in 1st year had more depression and the students who were in M. pharm had a higher risk of depression. More students living at their home and had college in the central east area had participated in higher rates.

Keywords: Pharmacy students, depression, prevalence, psychological symptoms.

Introduction

Depression, clinically referred to as major depressive disorder (MDD), is a psychiatric condition marked by pervasive mood disturbances, including prolonged feelings of dysphoria and a significant decline in engagement with routine activities, enduring for a duration of several weeks or more. It is commonly associated with disturbances in sleep patterns, such as insomnia or hypersomnia, changes in appetite, frequent fatigue, and difficulties with concentration. The National Comorbidity Survey Replication found that 62.62% of the studied population had experienced Major Depressive Disorder (MDD) at some point in their lifetime.

Symptoms of MDD may include pervasive feelings of worthlessness, hopelessness, helplessness, or excessive guilt. Patients often exhibit a persistent low mood and a pessimistic outlook, believing that their situation is unlikely to improve. Such individuals may be at increased risk for suicidal ideation, especially if they experience intense feelings of worthlessness or inappropriate guilt. Fatigue is commonly exacerbated in the morning and does not typically improve with rest. Complaints of pain, particularly headaches, frequently accompany fatigue. Sleep disturbances are often characterized by early morning awakenings with difficulty returning to sleep, and appetite changes, including decreased appetite, may lead to significant weight loss. It is crucial for healthcare providers to assess all patients diagnosed with MDD for suicidal thoughts. Risk factors for suicide include psychiatric and substance use disorders, particularly during adolescence and early adulthood, as well as physical illness, stressful life events, and feelings of hopelessness.^[1]

The Center for Epidemiologic Studies Depression Scale (CES-D), initially developed by Laurie Radloff in 1977 and later revised in 2004 by William Eaton and collaborators, is a widely used instrument in epidemiological research for the assessment of depressive symptomatology. It has played a pivotal role in the field of depression epidemiology and has been extensively utilized in national health and nutrition surveys, such as the

National Health and Nutrition Examination Survey (NHANES).^[2]

The age of patients varies from 1 to 60 years or above 60 years. Among them common depression affected in the age group (6-13 years children), and very common in age group (14-18 years teenagers), very common effect in the age group (19-40 years young adults), seniors (60+ years) and least numbers of depression in the age group of (3-5 years toddlers).^[3]

Medical university students encounter a range of stressors, including academic demands, time constraints, and social adjustments. In addition to these general stressors, medical students face unique challenges such as a substantial workload, extensive time commitments, frequent assessments, and the pressures associated with clinical environments. Research indicates that approximately 33% of medical students worldwide experience depression, a prevalence rate notably higher than that observed in the general population. A study conducted across various pharmacy colleges in Gujarat, India, collected data from these institutions with approval from the Sumandeep Vidyapeeth Institutional Ethics Committee (SVIEC). All participants were aged 18 years or older.^[3]

Diagnostic and statistical manual of mental health (DSM IV)^[4]

- I. Dysphoria: It's a state of widespread unhappiness, restlessness, discontent, or annoyance.
- II. Anhedonia: It's the inability to feel pleasure. It's a loss of interest and its common symptom of depression.
- III. Appetite: Anorexia may serve as an early indicator of major depressive disorder or a signal of potential relapse. Conversely, individuals experiencing depressive episodes may exhibit hyperphagia, characterized by excessive food intake.
- IV. Sleep: Most people who have experienced depression know that it's often accompanied by sleeping problems. It can be difficult for people with depression to fall asleep and remain asleep throughout the night. They and

- also have excessive day time sleepiness OR even sleep too much.
- V. Thinking/concentration: If you are experiencing pervasive negative cognitions, impaired sleep quality, anorexia, and feelings of hopelessness—symptoms commonly associated with major depressive disorder—your cognitive function, particularly concentration, is likely to be compromised.
- VI. Fatigue: Individuals with major depressive disorder frequently experience disturbances in sleep patterns, which may manifest as either hypersomnia or insomnia. Additionally, chronic fatigue syndrome is a condition characterized by persistent and unexplained fatigue that is not attributable to any other medical condition.
- VII. Agitation: "Agitated depression" is not a formal clinical term but is sometimes used informally to describe a presentation of depression with concurrent anxiety symptoms. Alternatively, depression may be classified as major depressive disorder with mixed features, which includes symptoms of agitation and psychomotor restlessness.
- VIII. Worthlessness: It's a state of being unimportant and useless. This is a common feeling of depression along with self-hatred, inappropriate shame common recurrent feelings of depression vocalised as "It's my entire fault" OR "What's the point?"
- IX. Suicidal ideation: Suicidal ideation refers to the contemplation or planning of suicide. Many individuals may experience suicidal thoughts, particularly during periods of acute stress or in the presence of significant mental or physical health conditions.

Subjects and methods:

The study focused on students from all pharmacy colleges in Gujarat, encompassing both genders and all academic years for the 2020-2021 academic year. The study included students across various pharmacy programs: Pharm.D, B.Pharm, M.Pharm, and D.Pharm. The B.Pharm program involves four years of study followed by a one-month internship, while the Pharm.D program includes five years of study and a one-year

internship. Upon completion, graduates are eligible for practice or further postgraduate clinical training. Career opportunities for pharmacy graduates typically include roles in pharmaceutical companies or hospitals as pharmacists.

The required sample size, with a 95% confidence interval, a margin of error of 5.05%, and an estimated response rate of 80%, was calculated to be 370 participants. A demographic questionnaire was designed to collect information including participants' names, ages, genders, university names, years of study, course names, and residency. Data collection, using the CES-D-R scale, took place over a period of approximately four months and participation was voluntary.

Results:

It was shown that male students have more chances of severe depression. Even in the case of moderate depression, male students have more risk. Females have more risk of having mild depression. Students who live in relative places have severe depression. The students who live at home have a lower risk of depression. The students who live in Hostel or PG may have moderate depression. The students who study in the second year have more risk of depression. 4th-year students have moderate depression. 6th-year students may suffer from mild depression. M.pharm students have the possibility of having severe depression. Pharm.D students tend to have moderate depression while B.pharm and D.pharm have a lower risk of having depression. All the data are given in below the table-1. Furthermore, the p-value was found significant.

Table-1 Association of depression with different factors.

Variables	Categories	Mild (%)	Moderate (%)	Severe (%)	p-value
Year of study	1st year	14 (21.88%)	7 (10.63%)	43 (67.19%)	0.1808
	2nd year	36 (28.57%)	27 (21.43%)	63 (50.00%)	
	3rd year	20 (28.57%)	16 (22.86%)	34 (48.57%)	
	4th year	11 (25.00%)	13 (29.55%)	20 (45.45%)	
	5th year	9 (32.14%)	6 (21.43%)	13 (46.43%)	
	6th year	16 (42.11%)	8 (21.05%)	14 (36.84%)	
Gender	Male	52 (24.88%)	35 (16.75%)	122 (58.37%)	0.00001*
	Female	65 (40.37%)	42 (26.09%)	54 (33.54%)	
Residential	Home	71 (35.32%)	51 (25.37%)	70 (39.30%)	0.000001*
	Hostel	13 (15.85%)	18 (21.95%)	51 (62.60%)	
	PG	14 (20.90%)	5 (7.46%)	48 (71.64%)	
	At relative's place	8 (13.56%)	3 (5.08%)	48 (81.36%)	
Course	D.pharm	7 (21.88%)	5 (15.63%)	20 (62.50%)	0.000006*
	B.pharm	24 (19.35%)	24 (19.35%)	76 (61.29%)	
	M.pharm	10 (20.83%)	4 (8.33%)	34 (70.83%)	
	Pharm.d	65 (39.16%)	44 (26.51%)	57 (34.34%)	

2. Pattern of psychological symptoms:

This study have shown that the percentage of Dysphoria (sadness) is 16.15% , anhedonia (loss of interest) 12.05%, appetite 7.94%, sleep 14.89%, thinking 9.77%, worthlessness 9.13%,

fatigue 11.24%, agitation 11.14%, suicidal ideation 7.69%.In our study mostly students have dysphoria than sleep, anhedonia, fatigue, agitation, thinking, worthlessness, appetite, suicidal ideation respectively Shawn in table -2 and Graph-1

Table – 2 Patterns of psychological symp

Types	Average (%)
Dysphoria	16.15
Anhedonia	12.05
Appetite	7.94
Sleep	14.89
Thinking	9.77
Worthlessness	9.13
Fatigue	11.24
Agitation	11.14
Suicidal ideation	7.69

Discussion:

Demographic:

Depression

This study has shown that we enrolled total of 370 students of D.pharm, B.pharm, M.pharm,

Pharm.D and we found 209(56.04%) males and 161(43.51%). We found that more lived at home (51.89%) than in hostel (22.60%), in PG (18.11%), and a relative's place (7.84%).West zone wise divided all students in East-central (65.41%), West(13.24%), West-central(0.54%), North(4.32%), North-central(16.49%). Our study

consists of 17.29% of students in 1st year, 34.05% of students in 2nd year, 18.91% of students in 3rd year, 11.89% of students in 4th year, 7.56% students in 5th year, 10.27% students in 6th year.

Assessment of depression with factors

Assessment of gender with depression:

Although there were several studies which show female gender had more depression than male, our study results showed that male students had more depression than female. Male students had more severe depression and more female students had mild depression.

Assessment of course of study with depression

Although there was more pharm.D students enrolled M.pharm students had more severe depression than D.pharm students and pharm.D students. This could be because of the longer duration of the course and less awareness regarding the course in India. Moderate depression was found higher in pharm.D students than B.pharm. Mild depression was found higher in D.pharm students and M.pharm. This could be because students in this course had a shorter duration of the course.

Assessment of residential area

In this study, it was found that severe depression lived was higher in the student who lived at their relative's place (81.36%) than students in PG (71.64%) and hostel (62.20%). Students who lived at their homes (39.30%) had less severe depression. This could be because students at home had family support. Moderate depression was found higher in students who lived at home than in hostel than in other places. Mild depression was found higher in students at home than as PG than in hostel OR at relative's place. In this study, students who lived at home were found with less severe depression, although overall they had more depression. This could be because they had family-related problems.

Assessment of zone of collage with depression

This study has shown that A higher number of students with severe depression had their college

in the east-central region than the west region than another region. Moderate and mild depression was found higher in the east-central region as well. Then it was higher in the north-central region than the others.

Assessment of year of study with depression

Severe depression was found higher in the 1st year, the 2nd year, the 3rd year, the 4th year, and the 5th year. But the depression was gradually decreasing from 1st year-5th year. In the 6th year more students had mild depression. This could be because of gradually decreasing study burden and students got habituated with their study environment.

Conclusion

In Conclusion, this study has shown that females had more depression than males. In this survey, 1st-year pharm.D students are more depressed than other students. It was found that students who lived at home suffered more depression in comparison to the ones who lived at a relative's place.

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