

Research Article

Evaluation of Mental Health Status for the Prevalence of Psychiatric Illnesses with Assessment of Knowledge and Use of Psychotropic Drugs among Medical Students

Dr. Kumar Sudip¹, Dr. Teli Shaikh Imran Shaikh Ismail², Dr. Siddhesh K Yadav^{3*},
Dr. Brijeshkumar R Vidja⁴

¹Junior Resident, Department of Anaesthesia, PGI YCM Hospital Pimpri, Pune, 411018.

²Associate Professor, Department of Pharmacology, Shri Bhausaheb Hire Government Medical College, Dhule, Maharashtra, India.

^{3*}Junior Resident, Department of Pharmacology, Government Medical College, Jalgaon – 425001, Maharashtra, India.

⁴Junior Resident, Department of Pharmacology, Government Medical College, Jalgaon – 425001, Maharashtra, India.

Corresponding Author: Dr. Siddhesh K Yadav

Junior Resident Department of Pharmacology, Government Medical College, Jalgaon – 425001, Maharashtra, India.

Email: siddhu24991@gmail.com

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ABSTRACT

Background: Medical students are at high risk of mental health disorders including depression, anxiety, and substance abuse. There is limited data on the prevalence of psychiatric illness and psychotropic drug use among medical students in India.

Objectives: To evaluate mental health status, determine prevalence of psychiatric illnesses, and assess knowledge, attitude, and use of psychotropic drugs among undergraduate medical students.

Methods: A cross-sectional questionnaire-based study was conducted among 303 undergraduate medical students at Government Medical College. The Kessler's Psychological Distress Scale (K10) was used to assess mental health status. Attitude towards psychotropic medications was assessed using the Self-Report Attitude Questionnaire (SRAQ). Data were analyzed using SPSS v25 with Chi-square, unpaired t-test, and ANOVA.

Results: Of 303 students (158 males, 145 females; age 18-29 years), 42% were likely to be well, 23% had mild disorder, 15% moderate, and 20% severe mental disorder. The 2020 batch showed the highest prevalence of severe disorder. Females had a higher proportion of mental disorders than males, though the difference was not statistically significant. Overall, students showed a positive attitude towards psychotropic medications; however, negative attitude was more prevalent in junior batches ($P < 0.004$). Only 2.97% of students were on prescribed psychotropic medication.

Conclusion: A significant proportion of undergraduate medical students experience psychiatric distress. Regular mental health screening, counseling, and competency-based education are recommended to address negative attitudes and improve early detection of psychiatric disorders.

Keywords: Mental Health, Medical Students, Kessler Scale, Psychotropic Drugs, Psychiatric Illness, Attitude.

INTRODUCTION

Good health includes both physical and mental attributes which is crucial to learn new skills, communication ability, living skills, employability, and social ability as well as to enhance the overall quality of life. College years are high time for onset of mental disorders such as mood disorders, anxiety, depression, and substance abuse, and if not managed at appropriate time, it can lead to suicides [1].

Previous literature has found the main stressors for the medical students are being long durations of studies, high work load and considerable financial pressure. Hence, it is not uncommon for higher prevalence of depression among medical students when compared to the general population [2]. Medical students who are doing post-graduation are reported to have a higher prevalence of depressive symptoms because of their older age, higher chance of being

under debt of bachelor studies, and higher likelihood of exposure to additional psychosocial distresses such as marriage and childrearing [3].

In a recent meta-analysis done by Rotenstein LS et al. reported that 15.7% medical students were positive for depression on screening and were under psychiatric treatment [4]. Depression is often associated with addictive behaviour [5]. These circumstances lead to enormous damage to the future physicians, which is reflected in the form of higher suicide rate of approximately 3-5 times higher as compared to other occupational groups [6]. These psychological constraints due to psychological stresses and disorders lead to incorrect medical decisions [7].

There is a lot of evidences which support that prescribed and non-prescribed psychiatric drugs usage has been consistently increasing among medical students and also been doubled in past years [8].

There is a need of regular mental health assessment, early detection, cure and prevention in order to develop a healthy professional and social environment for medical students. There is also lack of data regarding use of psychotropic drugs amongst medical students in India.

Thus, the present study helps to identify the mental health status and prevalence of mental health illness among medical students. This study also helps to identify the use of psychiatric medications among medical students in terms of types of medications used, whether these medications were prescribed by a registered medical practitioner or were non-prescribed.

The present study further helps senior administrators of medical colleges to design more effective therapeutic and preventive strategies for the prevention, screening and treatment of psychiatric health disorders in our future physicians.

Objectives

The objectives of the present study are:

- 1) Evaluation of mental health status of undergraduate of Government medical college.
- 2) Determination of prevalence of psychiatric illnesses among medical students.
- 3) To determine any correlation of demographic variables with the presence of psychiatric illness.
- 4) To find knowledge and attitude of medical students towards psychotropic drugs.

- 5) Analysis of prescribing pattern of psychotropic drugs amongst medical students.

MATERIALS AND METHODS

The present study was conducted after obtaining approval from the Institutional Ethics Committee (IEC) (Reference No: GMCJ/IEC Approval/062/2022, dated 09/02/2022). Strict confidentiality of the data was maintained throughout the study, and necessary permission from the head of the institution and head of the department was obtained. The study was conducted in accordance with the ethical standards prescribed by the Indian Council of Medical Research guidelines for biomedical research on human participants. It was designed as a cross-sectional questionnaire-based study involving undergraduate students. All undergraduate students who participated after being informed of the study's aims and objectives and who completed and returned the questionnaire were included in the study. Students who were not willing to participate and those who submitted incompletely filled questionnaires were excluded. A total of 303 samples were included in the present study, and the samples were collected using a convenience sampling method due to the accessibility of undergraduate students at the study institution.

The data was collected using a total of three questionnaires which were selected and designed for achieving the objectives of the present study. A pretested and validated Kessler's Psychological Distress Scale (K10) was used for assessing the mental health status of medical students. The questionnaire consists of 10 questions, each scored from 1 = 'none of the time' to 5 = 'all the time', with a total score ranging from 10 to 50. The scores are interpreted as follows: 10-19 (likely to be well), 20-24 (likely to have a mild disorder), 25-29 (likely to have a moderate disorder), and 30-50 (likely to have a severe disorder). For the assessment of attitude and knowledge of medical students towards psychotropic drugs, the self-report attitude toward psychotropic medications questionnaire (SRAQ) was used, consisting of 18 questions, of which 10 assess negative attitude and 8 assess positive attitude. Each item is rated on a three-point Likert scale as 1 = disagree, 2 = somewhat agree, and 3 = strongly agree, with positive scoring for positive attitude questions and reversed scoring for negative attitude questions. Additionally, a self-made

questionnaire was used to assess the use of psychotropic drugs among medical students, including questions related to the drugs consumed, whether they were prescribed or not, duration of consumption, and any adverse effects experienced. All three questionnaires were distributed among participating undergraduate students through both online and offline modes, and responses were recorded in case study forms and entered into Microsoft Excel software for further analysis. The collected data was analyzed using SPSS statistical software (version 25; IBM Corp., Armonk, NY, USA). Descriptive statistical analyses were performed to calculate the mean (\pm SD) and were presented using appropriate graphs and tables according to the study parameters. Various statistical tests such as Chi-square test, unpaired Student's t-test,

and ANOVA test were applied according to the objectives of the study.

RESULTS

A total of 303 samples from the undergraduate students are included in the present study. A total of 158 males and 145 females with their age ranging from 18 years to 29 years are present in the sample population.

Analysis of these samples on the basis of Kessler's scale showed that 127 students were likely to be well. While, 70 (23%) students suffered from mild mental disorder. 46 (15%) students had moderate disorder and a total of 60 (20%) students had a score of >30 indicating that they are suffering severe mental disorder/psychological distress as shown in Figure-1.



Figure 1: Pie Chart Showing the Distribution of Students according To the Scores Obtained in the Kessler's Scale

Batch wise analysis of the students as shown in Table-1 reported that higher prevalence of severe mental disorder occurs in the batch of

2020. While, highest percentages of normal students (46.59%) are present in 2019 batch.

Table 1: Batch Wise Distribution of the K-10 Scores and Distribution of Samples According To the Types of Mental Illness

K10 based score	Total, n (%)	Batch, n (%)			
		2018	2019	2020	2021
Normal	127(41.91)	12(33.33)	41(46.59)	18(36.73)	56(43.07)
Mild	70(23.10)	12(33.33)	22(25.00)	10(20.40)	26(20.00)
Moderate	46(15.18)	5(13.88)	8(9.09)	8(16.32)	25(19.23)
Severe	60(19.80)	7(19.44)	17(19.31)	13(26.53)	23(17.69)
Total	303	36	88	49	130

Gender wise analysis as represented in Table-2 showed that overall a higher percentage of females reported to have mental disorder of

mild, moderate and severe variety. While, a higher percentage of males are likely to be well.

Table 2: Gender Wise Distribution of Students According to the Kessler Scale

Type of mental illness	Males	Percentage (%)	Females	Percentage (%)
Well	75	47.47	52	35.86
Mild	34	21.52	36	24.83
Moderate	23	14.56	23	15.86
Severe	26	16.46	34	23.45
Chi-square: P > 0.05 (not significant)				

Table 3: Summary of Responses of Positive Attitude Questions

Response	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Strongly agree	53	65	111	75	228	52	52	60
%	17.49	21.45	36.63	24.75	75.24	17.16	17.16	19.80
Somewhat agree	206	179	159	200	71	183	185	164
%	67.98	59.07	52.47	66.00	23.43	60.39	61.05	54.12
Disagree	44	59	33	28	4	68	66	79
%	14.52	19.47	10.89	9.24	1.32	22.44	21.78	26.07

Analysis of responses towards positive attitude questions (Table 3) showed that majority of the population somewhat agreed towards the positive attitude questions and only 1.32% of

population disagreed from the Q5 (use of psychotropics along with counseling help a lot of people with mental illness).

Table 4: Summary of Responses of Negative Attitude Questions

Response	Q9	Q10	Q11	Q12	Q13
Strongly agree	141	36	57	72	39
%	46.53	11.88	18.81	23.76	12.87
Somewhat agree	138	138	157	138	174
%	45.54	45.54	51.82	45.54	57.43
Disagree	24	129	89	93	90
%	7.92	42.57	29.37	30.69	29.70
Response	Q14	Q15	Q16	Q17	Q18
Strongly agree	96	68	55	39	21
%	31.68	22.44	18.15	12.87	6.93
Somewhat agree	184	155	153	138	88
%	60.73	51.16	50.50	45.54	29.04
Disagree	23	80	95	126	194
%	7.59	26.40	31.35	41.58	64.03

Analysis of responses towards negative attitude questions (Table 4) showed majority of the population somewhat agreed with the

question asked. Around 68% disagreed with Q18 (It is always better to take less than the prescribed dose of these medications).

Table 5: Batch Wise Distribution of Responses for Positive and Negative Attitude of Undergraduate Students towards Psychotropic Drugs

Responses	2018(n=36)	2019(n=88)	2020(n=49)	2021(n=130)
Average positive attitude	17.88	17.19	16.87	16.74

Likert Scores	negative attitude	19.92	20.69	21.76	23.88
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Batch wise analysis [Table 5] of average likert score showed no statistically significant difference towards the positive attitude questions. While, the average score

significantly ($P < 0.004$) decreases as we move from the junior most batch (2021) to the senior most batch (2018).

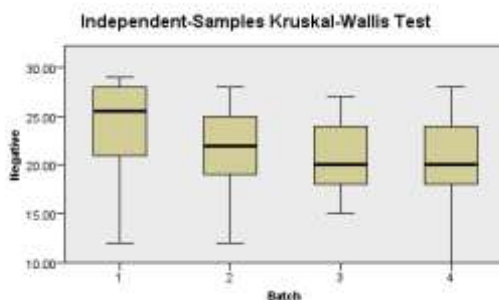


Figure 2: Box and Whisker Plot Showing Batch Wise Distribution of Average Likert Score towards Negative Attitude Questions. (1-2021, 2-2020, 3-2019, 4-2018)

Figure 2 shows box and whisker plot after performing kruskal-wallis test on different batches revealed the median score gradually

decreases from batch 1(2021) to batch 4(2018).

Table 6: Gender Wise Distribution of Positive and Negative Attitudes of Undergraduate Students towards Psychotropic Drugs

Responses		Males(n=158)	Females(n=145)
Average Likert Scores	positive attitude	17.28	16.75
	negative attitude	20.72	21.41

Gender wise analysis of positive and negative attitude towards psychotropic drugs [Table 6] showed statistically insignificant ($p > 0.05$) difference between the scores of males and females.

Analysis of 3rd questionnaire showed that a total of 9 out of 303 students were on prescribed psychotropic medication. The duration of their medication ranged from 1 month to 4 years. Majority of students were on anti-depressants and anti-anxiety medications. 3 students out of 9 reported to have side effects from the medication.

DISCUSSION

In this cross-sectional study, we included a total of 303 responses from the undergraduate students pursuing M.B.B.S course.

The present study found the prevalence of mild mental disorder to be 23%, moderate disorder 15%, and severe mental illness of 20%. However, students with normal mental health were 42% prevalent. A similar study conducted on students pursuing professional training [11] reported 34.7% of students were

found to have normal mental health, 26.89% students were having mild mental problems, and 23.10% and 15.33% had moderate and severe mental illness, respectively. The results of both the studies are comparably similar.

Majority of students strongly and somewhat agreed with positive attitude question. However, majority of student's disagreed and somewhat agreed with negative attitude question.

A vast majority of students (98.67%) believed that (Q5) use of psychotropics along with counseling would help a lot of people with mental illness. While, 64.03% of population disagreed from the question indicating usage of medication less than prescribed dosage (Q18).

The present study didn't find any statistically significant difference in attitude towards psychotropic medications. However, a similar study [12] reported to have statistically significant difference in attitude towards psychotropic medication between males and females. The difference in results could be due to difference in sample population.

Batch wise analysis revealed negative attitude gradually decreases as we move from the junior most batches to the most senior batch. This pattern could be due to lack of clinical exposure and theoretical knowledge in the junior batches. These findings are similar to a study which explained that self-experience and increased contact with mentally ill people tend to decrease negative attitudes toward mental illness [13].

The present study reported use of prescribed medication among 2.97% of population which consists of anti-anxiety and anti-depressants. While, a study reported 3.6% of total students were on psychotropic medication [14].

Strengths and limitations

This study is among the few Indian studies to simultaneously evaluate mental health status, attitude towards psychotropic medications, and patterns of psychotropic drug use in medical students using validated tools. The use of three standardized and self-designed questionnaires adds breadth to the findings. However, several limitations should be noted. The study used convenience sampling, which may limit the generalizability of findings. The cross-sectional design precludes causal inferences. Data on psychotropic drug use relied on self-reporting, which may be subject to recall and social desirability bias.

Future Research Directions

Longitudinal studies are needed to track changes in mental health status and psychotropic drug use across academic years. Future studies should include both undergraduate and postgraduate students and employ random sampling to improve representativeness. Qualitative research exploring barriers to help-seeking and the impact of competency-based medical education on mental health literacy would further strengthen evidence in this area.

CONCLUSION

The present study concludes that of the total of 303 M.B.B.S. undergraduate students 42% were likely to be well while, the rest might be suffering from mental illness. The prevalence was statistically insignificant between gender and batch.

The present study showed an overall positive attitude towards psychotropic medication with higher prevalence of negative attitude in junior batches. The attitude was invariable among males and females. There is a lack of

knowledge of psychotropic medications among junior batches. Recently introduced competency-based education might be helpful in reducing the negative attitude towards psychotropic drugs among junior batches. The present study reported no misuse of psychotropic medication among undergraduates as the medications were prescribed by a registered medical practitioner.

Academic stress is quite common among medical students which lead to anxiety and depression. Lack of early detection and management can have harsh complications in the lives of students. Therefore, regular counseling through seminars and workshops with screening for mental illness is recommended. These activities should be carried under supervision of college authorities and formation of mental health committee should be compulsory with faculties of psychiatry and pharmacology as their members.

These preventive measures might help student's better cope with their illness and become a mentally healthy physician.

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Tables and Figures



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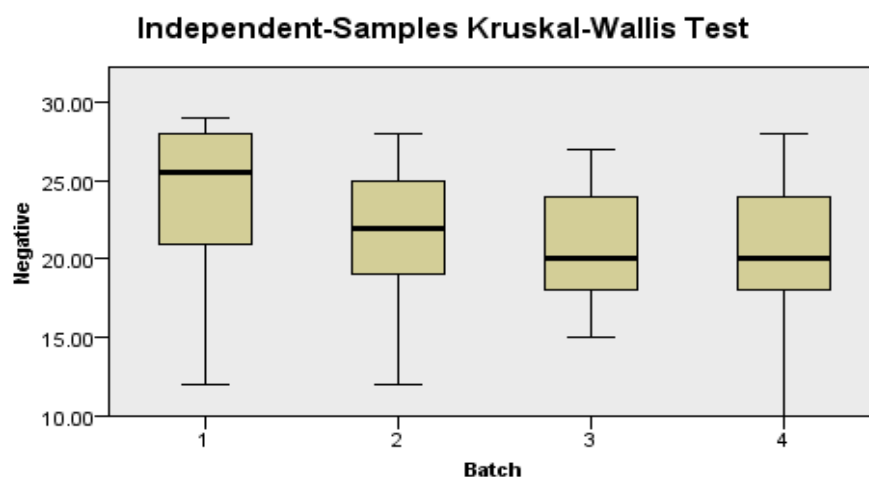


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