Original Research Paper

Volume-8 | Issue-10 | October-2018 | PRINT ISSN No 2249-555X

Psychiatry

PREVALENCE OF PSYCHIATRIC DISORDERS IN UNDERGRADUATE MEDICAL STUDENTS OF A COLLEGE IN NEW DELHI

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ABSTRACT

BACKGROUND: Medical students are the future physicians on whom rests the health care of the coming generations. Presence of unrecognized or untreated psychiatric disorders in them could compromise their future professional competence. Information regarding current prevalence of psychiatric disorders in medical students in India are scant. The study was done to add to the pool of knowledge about the same.

AIMS AND OBJECTIVES: To find out the prevalence of major psychiatric disorders among medical students in a college in New Delhi and to counsel the diagnosed individuals to seek therapeutic help.

MATERIAL AND METHODS: Randomly selected and voluntarily enrolled medical students of both genders of a medical college in New Delhi were the subjects. Mini International Neuropsychiatric Interview, version 6.0 (MINI 6.0) was the diagnostic tool used.

RESULTS: Lifetime Major Depression was the most common diagnosis with 23.3% of the subjects registering the diagnosis. Lifetime Bipolar Affective Disorder diagnoses were far less at 7.8%. Anxiety spectrum disorders were found to be the next most common ailment, with Lifetime Panic Disorder and Generalized Anxiety both affecting 5.8% each. Agoraphobia was seen in 4.8%, Obsessive Compulsive Disorder in 4.8% and Social Phobia in 2.9%.

CONCLUSIONS: Psychiatric disorders in medical students remains a reality with little focus of the concerned authorities on it. It has been seen that Psychiatric disorders crop up more as the student gains seniority reflecting the effect of cumulative individual and social stress. Most of the disorders start in a mild manner and are very amenable to treatment if started at the earnest. A routine psychiatric screening of the students on admission would go a long way to prevent catastrophes in the future.

KEYWORDS : Medical Students, Psychiatric Disorders, MINI, Depression, Anxiety, Phobia

INTRODUCTION

Medical professionals are expected to possess a certain level of intellect and integrity for fulfilling their expected professional and social roles. Evidently, presence of any undiagnosed or untreated psychiatric disorder in the undergraduate medical student could potentially affect the professional demeanour and clinical judgment of these physicians in the making. Public admission of having any psychiatric disorder is a social and professional taboo in most Asian countries, including India. Adding to this is the fact that medical curriculum and examination patterns in India are very stressful for the students. This on many occasions lead to a manifest psychiatric diagnosis from a latent one. Contemporary studies on psychiatric disorders in medical students are far and between, especially from south Asia. This study therefore, is an effort to contribute to the pool of knowledge about prevalence and nature of psychiatric disorders among the medical students in this part of the world.

OBJECTIVES OF THE STUDY

The main objective of this cross-sectional study was to detect the prevalence of current and past episodes of common psychiatric disorders in medical students of a college in New Delhi. The other objective was to counsel and advise appropriate referral to those identified with psychiatric disorders.

MATERIAL & METHODS

STUDY SUBJECTS: The subjects of the study were the undergraduate medical students pursuing the M.B.B.S. course in a medical college in New Delhi. Both the genders were eligible for inclusion in the study. Randomly selected Students in the second, third and fourth year of their course, totaling about 150 were offered the chance to enroll for the study. In the event, 103 participated on their own volition. There were no exclusion criteria *per se.* Every student had an equal opportunity to participate in the study.

ETHICAL CLEARANCE: The necessary clearance for the study was sought and obtained from the concerned University Ethical Committee

METHOD: The randomly selected roll numbers were identified, and these students were informed about the general lay out of the proposed project in their respective lectures or postings to the Community Medicine department. The protection of anonymity of the subjects was assured absolutely. The willing and consenting were enrolled by allotting a unique alphanumeric code to each. At mutually agreed time and location each student was administered the clinical rating scale by the principal investigator (the first author of this paper). When a probable diagnosis of any psychiatric disorders was evident, the individual was informed and appropriate therapeutic referral suggested. Anonymity of the subject was protected in no uncertain terms.

TOOL: The clinical rating scale used in this study was the Mini International Neuropsychiatric Interview **[1]** version 6.0 (MINI 6.0). The MINI has been designed as a brief structured interview for the major Axis I psychiatric disorders in the Diagnostic and Statistical Manual-fourth edition-Text Revision (DSM-IV-TR) **[2]** of the American Psychiatric Association (APA) and the International Classification of Diseases, 10th Edition (ICD-10) **[3]**, of the World Health Organization (WHO), Geneva. Validation and reliability studies show that the MINI has acceptably high validation and reliability scores, and can be administered in short time-period of about 30 minutes by an appropriately trained clinician. The following common psychiatric pathologies were screened for: Major Depression, Hypomania, Panic Disorder, Agoraphobia, Social Phobia, Obsessive – Compulsive Disorder, Psychotic Disorders and Generalized Anxiety Disorder, among others.

SAMPLING TECHNIQUE & SIZE

Sampling method was simple random as every individual in the target population had equal chances of getting enrolled in the study. Sample size envisaged was around 110 and ultimately 103 subjects were enrolled. There were 55 males (53.4%) and 48 females 46.6%). The average age on date of evaluation was about 20 years, with a range from 18 years to 23 years.

DATA COLLECTION & ANALYSIS

Data collection was done from December 2015 to February 2018. Each of the individual who consented to enroll in the study was administered the clinical rating scale MINI by the principal investigator in complete privacy and with absolute assurance of anonymity of the subject. All the subjects wanted to know the result of the MINI rating and were told so. When any past or current psychiatric diagnosis was picked up, the investigator informed them about it and counselled each of these subjects about the possible therapeutic interventions and suggested

pertinent referrals to clinical psychologists or psychiatrist.

REVIEW OF LITERATURE

According to the World Health Organization (WHO) estimates in 2017, the prevalence of Depressive Disorders in India was 4.5% of the general population (5.2% of the male and 3.8% of the female populations). The prevalence of Anxiety Disorders was 3.0% (4.0% of male and 2.8% of female population). **[4]**

As per the National Mental Health Survey conducted by the National Institute of Mental Health and Neuro Sciences, Bengaluru in 12 States of the country, the prevalence of depressive disorders in India is estimated to be 2.7% of the total population. **[5]**

Numerous studies have been carried out in recent times on the prevalence of psychiatric disorders in medical students across the world and in India as well. A brief review of some of them are given below.

M.S.B. Yusof and co-workers undertook a prospective study in Malaysia in 2013 on the mental health of medical students from joining to graduation. They found ethnic Malays to be more prone to anxiety and females to have lesser depression than males. **[6]**

J.P. Pacheco, *et al.* published a paper in 2017 on the mental health problems among medical students in Brazil. It was a meta-analysis of numerous studies carried out in Brazil. The main prevalent disorders were found to be Anxiety (32.9 %) and Depression (30.6 %) **[7]**

In 2016 researchers led by Lisa S. Rotenstein conducted a meta-analysis of 167 cross-sectional studies from 43 countries (n= 1, 16,628) on the prevalence of depression and suicidal ideation in medical undergraduates. They found the overall prevalence of depression to be 27.2% and that of suicidal ideation to be 11.1%. **[8]**

In a cross-sectional study from Bosnia Herzegovina in 2017, Farkhondeh Jamshidi *et al* found that 27.9% (33% males and 67% females) had some form of psychiatric disorder including depression, anxiety, somatic manifestations and social dysfunctions. **[9]**

A recent study from Nepal by A. Adhikari and co-workers in 2017, had a sample size of 343. They found the prevalence rates of major psychiatric disorders as: Depression – 29.2%, Panic Disorder – 4.1%, Anxiety Disorders – 5.8%. **[10]**

In a paper of 2013 by S. Ranjan, *et al* extensively reviewed available literature from the United States of America on the topic. They concluded that majority of the students (> 50%) suffered from some psychiatric disorder. The main contributing factors being academic, environmental and emotional stress. This frequently led to poor academic performance, unprofessional behaviour and ultimately dropping out of the course. **[11]**

A study of 2014 by A.R. Endreddy *et al* done in the Guntur district of Andhra Pradesh, India, brought up important findings about the prevalence of psychiatric manifestations in medical students. Overall, 34% of the students were found to have a psychiatric diagnosis. Chief among them were social phobia (13%) and agoraphobia (10%). Other significant diagnoses were generalized anxiety disorder (7%) and hypomanic episodes (7%). **[12]**

Kiran Mehta and co-workers from Amritsar, India carried out a study in 2015 on mental distress in medical students. They found that mental disorders were more in senior students, the female gender, the hostel dwellers and students from rural background. **[13]**

During a study done in Kolkata, India in 2016, Debadatta Chakrabarty and team evaluated the mental health status of undergraduate medical students. The highlight of their findings was that 15.6% were anxious and 12% were suffering from depression. **[14]**

In a very recent web publication of April 2018 by S. Sarkar *et al* from the All India Institute of Medical Sciences (AIIMS), New Delhi, reviewed several contemporary studies on psychiatric disorders in medical students. They came up with a pooled prevalence of 39.2% for depression and 34.5% anxiety. The females were found more prone to depression. **[15]**

RESULTS

Twenty subjects (19.4%) reported a family history of a neuropsychiatric disorder. They were mostly first and second degree relatives. Eleven subjects (10.7%) reported a past diagnosis of a neuropsychiatric disorder in self. Out of them, five had a diagnosed affective disorder, depression or bipolar. Four individuals has a past diagnosis of generalized anxiety or panic attacks, one reported past Generalized Tonic Clonic Seizures (GTCS) and another was diagnosed with Obsessive Compulsive Disorder (OCD).

When clinically rated by using the Mini International Neuropsychiatric Interview (MINI) numerous psychiatric diagnoses were picked up. Chief among them are given in the following table.

Table No. 2 Psychiatric disorders in the study group

S. No.	Diagnosis by 'MINI'	Nos. of Subjects (n=103)	Percentage [%]
1	Major Depressive Disorder Current	11	10.7
2	Major Depressive Disorder Past	21	20.4
3	Both Current and Past Major Depression	8	7.7
4	Lifetime Major Depression	24	23.3
5	Hypomanic Episode Current	2	1.9
6	Hypomanic Episode Past	5	4.9
7	Manic Episode Current	0	0
8	Manic Episode Past	5	4.9
9	Both Current and Past Hypomanic or Manic Episode	8	7.8
11	Panic Disorder Lifetime	6	5.8
12	Panic Disorder Current	2	1.8
13	Agoraphobia	5	4.8
14	Social Phobia	3	2.9
15	Obsessive Compulsive Disorder	5	4.8
16	Psychotic Syndrome Lifetime	0	0
17	Psychotic Syndrome Current	0	0
18	Psychotic Symptoms in Affective Disorder	0	0
19	Generalized Anxiety Disorder	6	5.8

The gender distribution of overall psychiatric disorders in general and also of specific diagnoses was also analysed.

The findings are given in Table No. 3 below.

Table No. 3 Gender distribution of psychiatric disorders

S. No	Diagnosis	Total	Males (%)	Females (%)
1	Lifetime Major Depression	24	12 (50.0)	12 (50.0)
2	Lifetime Bipolar Affective Disorder (BPAD) I&II	8	7 (87.5)	1 (12.5)
3	Panic Disorder Lifetime	6	5 (83.3)	1 (16,7)
4	Obsessive Compulsive Disorder (OCD)	5	2 (40)	3 (60)
5	Generalized Anxiety Disorder (GAD)	6	4 (66.7)	2 (33.3)
	Total	54	28 (51.9)	26 (48.1)

Overall, almost similar numbers of male and females came up with some significant psychiatric diagnosis. In fact the ratio of Male : Female with a diagnosis of lifetime Major Depression was found to be 1 : 1 in our study. However, some diagnoses were significantly higher in males ($p<0.01$). These were Lifetime BPAD- I/II, Lifetime Panic Disorder and GAD. There were more diagnoses of OCD in females, but the difference was not statistically significant.

On application of the MINI, almost all past histories of diagnoses of mental disorders in the subjects were confirmed, and in many cases additional diagnoses were discovered. This substantiated the veracity of the tool used. The following table illustrates this finding

Table No 4 Past diagnosis and MINI results

S. No.	Past Diagnosis	MINI Diagnosis
1	Anxiety	Major Depression current and past; Panic Disorder lifetime
2	Bipolar Affective Disorder-I (BPAD-I)	Major Depression current and past; Current Hypomania; Manic episode past

3	Depression	Major Depression past, Hypomania past; Panic Disorder lifetime
4	Depression	Major Depression current; Hypomanic and Manic episode past; Agoraphobia; Social phobia; Obsessive Compulsive Disorder (OCD)
5	Generalised Tonic Clonic Seizures (GTCS)	Major Depression current and past; Hypomanic episode past
6	Anxiety	None
7	OCD	Major Depression current and past; OCD
8	Depression	Major Depression current and past
9	Anxiety	None
10	BPAD-I	Hypomanic episode current; Manic episode past
11	Panic Attacks	Panic Disorder current and lifetime

Two subjects giving past history of diagnosis of anxiety were found to have no psychiatric diagnosis on application of the MINI. The most probable explanation is that there were past episodes of anxiety which had shown remission since. Importantly two individuals with past diagnosis of Depression were found to have past episodes of Mania and/or Hypomania. This changed the working diagnoses to a Bipolar Affective Disorders warranting changes in management protocol. Both the subjects were strongly advised to communicate our findings to their treating psychiatrists respectively. When additional diagnoses wire picked up, the subject was told about them and advised to communicate the same to their treating physicians.

Although none of the subjects exhibited manic symptoms at the time of rating, five (4.9%) were discovered to have had at least one manic episode in the past. Out of these two had a confirmed diagnosis of Bipolar Affective Disorder (BPAD) and were under psychiatric treatment. Also, one of these two gave a history of (BPAD) in one sibling

Notably, no psychotic syndrome current or past, were picked up in any of the individuals. Also, there were no cases with current or past episode of psychotic symptoms with affective disorders.

Considering the mosaic of the findings, Lifetime Depression came out as the most prevalent psychiatric ailment affecting more than 25%. Anxiety Spectrum Disorders were the other significant discovery with Lifetime Panic Disorder and Generalized Anxiety both affecting 5.8% each. Agoraphobia was seen in 4.8%, Obsessive Compulsive Disorder in 4.8% and Social Phobia in 2.9%. There were twenty-three occasions when anxiety spectrum disorders co-existed with affective disorders like depression in the same individual. Such co-morbidity is given in the table below.

Table No 5 Co-morbidity pattern of Psychiatric Disorders

S. No.	Type of Co-morbidity	Nos.	% [n=23]
1.	Depression + GAD	3	13.04
2.	Depression + Panic Disorder	4	17.39
3.	Mania/ Hypomania + Panic Disorder	2	8.69
4.	Depression + Agoraphobia	1	4.35
5.	Depression + OCD	3	13.04
6.	Depression + Mania / Hypomania	4	17.39
7.	Panic + GAD	2	8.69
8.	GAD + OCD	2	8.69
9.	Social Phobia + Agoraphobia	1	4.35
10.	Agoraphobia + OCD	1	4.35

DISCUSSIONOut of the 150 randomly selected students who were offered enrolment in the study, 103 (68.7%) gave willing consent to join on assurance of absolute anonymity. This indicates that fear and taboo of discovery of a psychiatric diagnosis is still substantial even in medical students.

The WHO estimates of major psychiatric disorders in the Indian general population are 4.5% for depression and 3% for anxiety disorders, with male affliction being more than females in both pathologies. **[4]** The most recent data from the Indian Ministry of Health cites a much lesser prevalence of depression in the general population at 2.7%. **[5]** Both of these are significantly less when compared with the findings of the various studies on medical students cited in this paper, including this study. The reason for this is perhaps that WHO and Health Ministry estimates are statistical projections from the data available in the public health information system, which show only the proverbial tip of the iceberg. Secondly, medical students are a peculiar group with exceptionally high stress levels due to the exigencies of academic performance.

The findings of our study are generally in consonance with other such studies worldwide. However, it must be mentioned that our study covered a more comprehensive list of psychiatric disorders than most of the cited studies, which more or less covered only depression, suicide and anxiety. **[6, 7, 8, 9, 10, 11, 12, 13, 14, 15]** Also, the veracity of the tool used and the level of training of the investigator in this study were of a high order. But as it always is, this study had its limitation of a small sample size, although a well-represented one due to the sampling technique used.

CONCLUSIONS & RECOMMENDATIONS

Psychiatric disorders in medical students remains a reality with little focus of the concerned authorities on it. It has been seen that Psychiatric disorders crop up more as the student gains seniority reflecting the effect of cumulative individual and social stress. Most of the disorders start in a mild manner and are very amenable to treatment if started at the earnest. A routine psychiatric screening of the students on admission would go a long way to prevent catastrophes in the future.

The study has immense possibilities of being duplicated to a larger and multicentre project. Importantly, comparison between students of different professional courses like Law, Management, Engineering, etc. should be undertaken for a more comprehensive picture of stress levels in the various professional courses.

Financial Grants: Nil
Conflict of Interests: None

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