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SELF RATED SYMPTOM MEASURE OF VARIOUS MENTAL HEALTH DOMAINS OF UNDERGRADUATE MEDICAL STUDENTS OF TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT: Introduction: Mental disorders account for nearly 12% of the global burden of disease. They are expected to become the second most important cause of disability in the near future. Medical students remain under great academic pressure to pass internal and external exams which continuously keep them under pressure. It is also very important to know how students feel rather than to treat only those who visit clinicians. Undiagnosed mental disorders adversely affect physical wellbeing too. **Objectives:** The primary objective of this study was to evaluate the subjective presence of mental health disorder in undergraduate medical student. **Materials and Methods:** DSM -5 self-rated symptom measure tool was used to detect the presence of mental health domains. Presence of any symptom in level 1 was further assessed by measuring its severity in level 2. **Results:** Study detected 86% of students had felt disturbed mental health in the past two weeks. Males had a higher number of symptoms than females. Manic symptoms were most common followed by anxiety and depression. Mania and depression were most common in males and females respectively. Symptoms of isolation and dissociation were significantly present in the first year of undergraduate medical students. The statistically significant negative correlation between age and presence of symptoms suggesting as age increase student learns manage academic pressure. Most of the student had none to slight severity in level 2.

INTRODUCTION: Good mental health is necessary for good physical health. Deterioration in mental health adversely affects physical health. Mental health is disturbed by various reasons. The World Health Organization (WHO) estimates that 7.4 percent of global DALYs are caused by disorders in the mental and behavioral disorders category [1].

A study conducted for National Council for Mental Health (NCMH) in India which stated that at least 6.5% of the Indian population had some form of serious mental disorder, with no discernible urban-rural differences [2]. Different epidemiological studies on the prevalence of psychiatric morbidity among school-going children and adolescents have reported a wide variation from 20% to 40% [3].

Seeds of competitive behavior are sown in the minds of students at a very early age. Need for good performance in their examinations is a current requirement. Students at the beginning of their carriers in all academic fields are exposed to pressure from their family and peers. Medical students while performing very well in their

secondary and higher secondary examinations need an even higher amount of reading and are exposed to even higher stress to perform better than their colleagues. Medical students show higher amount of stress when compared to their peers in other academic fields [4]. Prevalence of stress among medical UGs ranges from 55% to 90% [5, 6]. As the carrier of medical student advances the need for better performance also increases proportionally.

With that assessment of mental health becomes prime importance. Various researchers have used a variety of tools to assess the mental health of medical graduates. These tools assess the overall stress level or reasons of stress and very limited domains of mental health. Evaluation of various domains in undergraduates is very helpful in assessing the overall subjective feelings of an individual's mental health. Strous D *et al.*, used the DSM-4 assessment method which analyses various domains [7].

Recently updated DSM-5 offered by American psychiatry association offers detailed evaluation. It offers an assessment of various mental health domains by self-assessment [8]. These patient tools were developed for an initial patient interview and to monitor treatment progress. It is a useful tool to enhance clinical decision making and diagnosis. A higher rating in any domain suggests the further need for detail assessment.

A higher subjective assessment by undergraduate students in any domain suggests a need for further assessment. A study done on undergraduate medical students will show the overall presence of various symptoms in different year undergraduate students. So this study was performed to measure the subjective presence of various mental health symptoms in different year and gender in undergraduate medical students.

Aims and Objectives:

- The primary objective of the present study was to detect the subjective presence of various mental health domains in different years and gender of undergraduate medical students.

- The secondary objective was to analyze the severity of those who present with various mental health domains.

MATERIALS AND METHODS:
Participants: This was a cross-sectional study done on undergraduate medical students of tertiary care hospital during months of June-July 2015.

A total of 101 students of the different academic year (first year, second year and final year) and both gender participated in this study. The study protocol was approved by Institutional Ethics Committee (PDUMCR/IEC/20439/2014). Participants were informed about the study procedure. Consent was taken from the participants. Confidentiality of the response obtained was maintained.

Instrument: DSM-5 self-rated cross-cutting symptom measure for adults was used for evaluation. It gives a comprehensive evaluation of thirteen psychiatric domains. It consists of two levels. Level 1 consist of 23 questions that assess 13 psychiatric domains, including depression, anger, mania, anxiety, somatic symptoms, suicidal ideation, psychosis, sleep problems, memory, repetitive thoughts and behaviors, dissociation, personality functioning, and substance use. Each item inquires about how much (or how often) the individual has been bothered by the specific symptom during the past 2 weeks. Each item on the measure is rated on a 5-point scale (0=none or not at all; 1=slight or rare, less than a day or two; 2=mild or several days; 3=moderate or more than half the days; and 4=severe or nearly every day).

A rating of mild (*i.e.*, 2) or greater on any item within a domain (except for substance use, suicidal ideation, and psychosis) may serve as a guide for additional inquiry and follow up to determine if a more detailed assessment for that domain is necessary. For substance use, suicidal ideation, and psychosis, a rating of slight (*i.e.*, 1) or greater on any item within the domain may serve as a guide for additional inquiry and follow-up to determine if a more detailed assessment is needed. The DSM-5 level 2 cross-cutting symptom measures may be used to provide more detailed information on the symptoms associated with some of the level 1 domains.

Procedure: Each student was asked to complete the questionnaire privately. Students were asked to complete the form and return within 24 h. If the rating of mild (scale of 2) or higher were found in

any domain, then he/she has given a level 2 questionnaire for that particular domain.

Statistical Analysis: Descriptive statistics were used for analyzing data. Association between age, gender, year of study and various domains was determined by Fisher's exact test and point biserial correlation coefficient.

RESULTS: A total of 101 undergraduate medical students (57 males and 44 females) participated in the study. 86% of UG students had at least one

symptom present in their last 2 weeks. 91% and 77% males and females respectively responded with at least one subjective symptom. **Table 1** show the percentages of students participated from each academic year. **Table 2** shows the presence of various domains in percentages and their mean scores with standard deviation.

TABLE 1: PARTICIPANTS YEAR WISE (n=101)

Academic year	Total (%)
First year	34(33.7%)
Second year	32(31.7%)
Final year	35(34.7%)

TABLE 2: PRESENCE OF VARIOUS DOMAINS AND GENDER WISE ASSOCIATION IN UG MEDICAL STUDENTS (n=101) (P<0.05)

Domain	Number (%)	Mean (SD)	Male (%)	Female (%)	Sig level
Depression	45(44.6)	2.69(0.73)	21(20.8)	24(23.8)	0.106
Anger	22(21.8)	2.50(0.74)	12(11.9)	10(9.9)	1.000
Mania	50(49.5)	2.86(0.83)	35(34.7)	15(14.9)	0.009**
Anxiety	49(48.5)	2.71(0.82)	31(30.7)	18(17.8)	0.229
Somatic symptoms	20(20)	2.60(0.75)	14(14)	6(6)	0.216
Suicidal Ideation	15(14.9)	2.67(0.82)	10(9.9)	5(5)	0.574
Psychosis	18(18)	2.83(0.92)	15(15)	3(3)	0.017**
Sleep problems	28(27.7)	2.64(0.73)	19(18.8)	9(8.9)	0.182
Memory	18(17.8)	2.56(0.78)	11(10.9)	7(6.9)	0.795
Repetitive thoughts and behaviors	42(42)	2.69(0.78)	30(30)	12(12)	0.015**
Dissociation	17(16.8)	2.59(0.80)	9(8.9)	8(7.9)	0.793
Personality functioning	41(40.6)	2.76(0.83)	27(26.7)	14(13.9)	0.153
Substance use	5(5)	2.80(1.10)	4(4)	1(1)	0.384

** suggests P<0.001

TABLE 3: ASSOCIATION BETWEEN ACADEMIC YEAR AND MENTAL HEALTH DOMAINS (n=101) (P<0.05)

Domain	First-year (%)	Second year (%)	Fourth year (%)	Significance level
Depression	16(15.8)	16(15.8)	13(12.9)	0.536
Anger	6(5.9)	10(9.9)	6(5.9)	0.291
Mania	18(17.8)	17(16.8)	15(14.9)	0.623
Anxiety	13(12.9)	18(17.8)	18(17.8)	0.313
Somatic symptoms	8(8)	6(6)	6(6)	0.813
Suicidal ideation	6(5.9)	5(5)	4(4)	0.760
Psychosis	10(10)	5(5)	3(3)	0.080
Sleep problems	9(8.9)	6(5.9)	13(12.9)	0.239
Memory	8(7.9)	6(5.9)	4(4)	0.416
Repetitive thoughts and behaviors	16(16)	12(12)	14(14)	0.729
Dissociation	9(8.9)	7(6.9)	1(1)	0.021**
Personality functioning	16(15.8)	14(13.9)	11(10.9)	0.379
Substance abuse	2(2)	0	3(3)	0.259

**suggests P<0.05

Most UG students reported manic symptoms present most commonly followed by anxiety and depression. Substance abuse was the least common present in all students. Mania, anxiety and repetitive thoughts are commonly present in decreasing order in males. Depression, anxiety, and mania are present in decreasing order in females. Mania, psychosis and repetitive thoughts are significantly associated with males. **Table 3** shows

the academic year wise distribution of mental health domains and their association.

Symptoms of mania, repetitive thoughts, depression and personality functioning are present in decreasing order of frequency in first year UG medical students. Anxiety, mania, and depression are present in second year UG medical students while anxiety, mania and repetitive thoughts are

present in final year UG medical students in decreasing order of frequency. Symptoms of dissociation are statistically significantly present in first year UG medical students. **Table 4** shows the level 2 severity levels.

TABLE 4: SEVERITY IN LEVEL - 2 (IN PERCENTAGES)

Domain	None to slight	Mild	Moderate	Severe
Depression	66	30	2	2
Anger	71	5	19	5
Anxiety	57	26	14	4
Sleep disturbance	83	12	4	0
Total	277	73	39	11

It shows the severity of symptoms in the majority of students was none to slight. None of the students with symptoms of substance abuse answered level 2 severity level questions. **Table 5** shows the frequency distribution.

TABLE 5: FREQUENCY DISTRIBUTION OF DOMAINS (n=101)

Frequency of disease	Percentages
0	14
1	8
2	14
3	16
4	12
5	13
6	6
7	7
8	5
9	3
10	1
11	1

14% of UG students had no subjective symptom. 63% of students had one to five subjective symptoms. All the students who had manic symptoms had scored more than 6 in level 2 which indicates the need for further diagnostic workup. Level 2 somatic symptoms severity shows 88% of participants had a minimum to low severity. Level 2 repetitive thoughts show 67% do not need any assessment for obsessive-compulsive disorders. There was a negative statistically significant correlation between age and presence of psychotic symptoms with Pearson correlation coefficient r = -0.28.

DISCUSSION: Medical education can impose significant psychological stress in UG students. This study shows that 86% of students had a presence of at least one subjective symptom of disturbed mental health. 14% of students had none

symptoms present. A significantly higher number of males had at least one symptom present than females suggesting males need further attention and counseling. The reasons for this difference should be explored. Earlier studies have shown up to 90% of UG medical and other academic students suffering from disturbed mental health [6].

Almost 50% of 101 UG students had the presence of manic symptoms in their past 14 days. All students with manic symptoms had a score of 6 or higher on level 2 indicating a high probability of manic or hypomanic condition which needs attention. Second highest symptoms were of anxiety with 48.5%. 57% of students with anxiety had none to slight severity in level 2. Symptoms of depression were present in 44.6% students with 66% had none to slight severity. The majority had none to slight severity in level 2 although 14% to 19% of students with anxiety and anger had moderate severity suggesting the need for intervention. Mania, anxiety and repetitive thoughts suggesting obsessive-compulsive thoughts were present in decreasing order in males while depression, anxiety, and mania were present in decreasing order in females.

Of these thirteen domains, symptoms of mania, psychosis and repetitive thoughts were significantly associated with males. Association of various domains in males and females helps to understand the needs of males and females differently. Symptoms of mania and anxiety are present in both genders with high frequency. Anxiety was the most common symptom in the second and final year of UG teaching year. Symptoms of depression were present in the first and second academic year as these are the initial years are usually tough for the majority of students and failing to perform can lead to a feeling of depressive symptoms. Depression and altered personality symptoms were equally present in the first year suggesting students feeling depressive symptoms also feel symptoms of altered personality. Symptoms of feeling dissociated from surrounding and from oneself were significantly present in the first academic year. Symptoms of obsessive-compulsive thoughts were present in first and final years of under graduation.

There was a statistically significant negative correlation between age and presence of psychotic

symptoms suggesting as the age increase the subjective presence of psychotic symptoms decreases which may be due to the adaptation of the individual to the medical field as career advances. Gupta S revealed that stress was present in 91.1% of medical students in Kolkata. It also shows that reason for that stress was academic in 94.9% cases [6]. A study done by Makhal M on dental students found a prevalence of psychiatric manifestation in West Bengal was 52.8%. A study done at Israel by Straus RD revealed 55.5% of medical students had experienced symptoms of mental illness. Higher subjective presence of symptoms in Indian medical students suggests us to evaluate our academic curriculum and examination methods.

CONCLUSION: Present study shows that the majority of medical students has suffered from disturbed mental health in the past some time. The severity of those symptoms was none to slight in the majority of students; some students with anger and anxiety had moderate severity. We must interfere with improving the disturbed mental health of future doctors.

CONFLICT OF INTEREST: There was no conflict of interest

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