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RESEARCH ARTICLE

PREVALENCE AND PATTERN OF MENTAL DISORDERS AMONGST THE MBBS STUDENT STUDYING IN TERTIARY CARE HOSPITAL, IMPHAL

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Abstract

Background: Graduate medical studies are considered one of the most stressful professional courses. High expectations from self and family members, coupled with the training for assuming responsibility for the wellbeing of the patient, make a medical student prone to experience stress which may become excessive. The accumulating stress is likely to have several deleterious effects on medical students including academic jeopardy and poor quality of life.Medical students have higher levels of depressive symptoms than the general population. Depressed medical students are more likely to experience burnout or drop out of medical school. Additionally, depressed students are more likely to consider or commit suicide.Mental health of a medical student remains affected throughout training due to long study and working hours, extensive course content, examinations, competition, sleep deprivation, and loneliness including other factors interfering in everyday personal, social, and family life. Globally, it has been demonstrated that 25%–90% of medical students are stressed, which is an important determinant of depression and anxiety.The present study aims to document the prevalence and patterns of mental disordersamong the MBBS student studying in a tertiary care hospital, Imphal.

Methodology:A cross-sectional study design was adopted in the present study. Stratified random sampling was done in the MBBS students. All the MBBS students of RIMS, Imphal was divided into 4 strata i.e. 1st, 2nd, 3rd MBBS and interns. From each stratum 50 students was selected randomly RIMS, Imphal during the study period were considered the study population of the present study. A total of 200 samples were collected. Each prospective participant was explained about the study's objectives, interviewing protocols, and confidentiality measures.Following the participants consent, a self-developed semi-structured proforma,Physical Health Questionnaire (PHQ)and Mini-International Neuropsychiatric Interview (MINI) for adult was used for data collection.

Results: The present finding shows that out of total 200 study samples 162 samples i.e. 81% had no mental disorders and 38 samples i.e.19 %

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had mental disorders.About 13 participants were diagnosed with generalised anxiety disorder (6.5%), 8 participants had major depressive disorder (4%), 7 participants had both major depressive disorder and generalised anxiety disorder (3.5%), 5 participants had other anxiety disorder (2.5%), 3 participants had panic disorder (1.5%), 1 participant had somatic symptom disorder (0.5%), 1 participant had PTSD (0.5%) and no substance use disorders among the participants.The maximum study sample was in age group of 21-25 years (76.6%) followed by the age group less than 20 years (15.9%) followed by the age group 26-30 years(7.5%) of participants.Both male and female are distributed equally among the participants.Most of the participants were resident of urban area (77%) and rest from rural area (23%).The majorityof the participants were Hindu religion (58.7%), followed by Christian (28.3%) and rest were Muslim (13%).The maximum participants were from middle class (61.7%), followed by lower middle class (28.3%) and rest were from upper middle class (28.3%).This is based on BG Prasad's scale .About 79% were from nuclear family and followed by 21% belonging to joint family.

Conclusion: It was determined that the maximum number of participants was in age group of 21-25 years. The maximum participants were resident of urban area. Most of the participants were Hindu religion, followed by Christian and rest were Muslim. Majority of the participants were from middle class they were from nuclear family.Amongst all the students who are taken in this study as per inclusion and exclusion criteria,the prevalence of Mental Disorders of MBBS student studying in RIMS, Imphal is 19 %. Out of total sample of 200, the majority of the participants were diagnosed with generalised anxiety disorder (6.5%). This was followed by major depressive disorder (4%), both major depressive disorder and generalised anxiety disorder (3.5%), other anxiety disorder (2.5%), panic disorder (1.5%), somatic symptom disorder (0.5%), PTSD (0.5%) and substance use disorder (0%). This study shows that presence of mental disorders among the MBBS students was present maximum in 21-25 years age group. Majority of the participants having mental disorders are maximum in female gender. Majority of the participants having mental disorders among the MBBS students are present more in those who belongs to Nuclear Family and those who are resident of urban area. The percentage of mental disorders are present more in Final MBBS, followed by Interns,First MBBS and Second MBBS. This also shows that the percentage of the presence of mental disorders of the MBBS students are present more in Hindu religion(63%), followed by Christian(34%) and Muslim (26%). The percentage of the presence of mental disorders are present more in students belonging to middle class SES(71%), followed by lower middle class(26%) and upper middle class(3%). The percentage of the presence of mental disorders of the MBBS students are present more in students belonging Nuclear Family(68%). The percentage of mental disorders are present more in Final MBBS(40%), followed by Interns (32%), First MBBS(24%) and Second MBBS(5%). The result is statistically significant as P- value is of 0.007.

Introduction:-

WHO defines "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Previous studies have shown fairly high levels of distress, such as symptoms of depression anxiety and even suicide thoughts among medical undergraduates. The potential negative effects of emotional distress on medical students include impairment of functioning in classroom performance and clinical practice, stress-induced disorders and deteriorating performance[1].

A lot of researches reported anxiety and depression among medical students specially in their first academic year as they are going to suffer from academic stressors such as information input overload, lack of leisure time and academic evaluation, for many students depression stimulates feeling of fright, lack of ability, anger and can be associated with psychological and physical morbidities[2]

Graduate medical studies are considered one of the most stressful professional courses. High expectations from self and family members, coupled with the training for assuming responsibility for the well being of the patient, make a medical student prone to experience stress which may become excessive. The accumulating stress is likely to have several deleterious effects on medical students including academic jeopardy and poor quality of life.[3]

Mental health of a medical student remains affected throughout training due to long study and working hours, extensive course content, examinations, competition, sleep deprivation, and loneliness including other factors interfering in everyday personal, social, and family life.Globally, it has been demonstrated that 25%–90% of medical students are stressed, which is an important determinant of depression and anxiety.[5-6]Students with dysfunctional emotional state need serious attention and management otherwise inability to cope successfully may lead to adverse consequences at both personal and professional levels. Early identification and necessary interventions targeting the alleviation of modifiable stressors might result in a less stressful academic life for students, which in turn could enhance their academic performance and skill development as medical graduates.

In recent years, depression has been recognized as a major morbidity in medical schools and the various factors that have been seriously affecting their academic performance and quality of life has been appreciated.[7]

Considerable degree of psychological morbidity has been reported among medical students ranging from stress, interpersonal problems and suicidal ideation to psychiatric disorders and they tend to have greater psychological distress than the general population.Therefore, it is very important to prevent the ill effects of depression on one's educational attainment and career through early detection and proper interventional measures.[7]

Material and Methods:-

A cross-sectional study design was adopted in the present study and employed a quantitative research approach. All MBBS students and internsare considered as the study population of the present study. A total of 200 samples were collected through consecutive sampling method as it offered some structure and included all patients who were reachable over the designated study period. Necessary permission was taken from the concern authority and also informed that; the research was mainly taken up to find out the pattern of Mental Disorders amongst the MBBS student studying in tertiary care hospital.After that, each prospective participant was explained about the study's objectives, interviewing protocols, and confidentiality measures. They were told that no part of the study will use their names or other identifying information. Following the participants' consent, a self-developed semi-structured proforma was used for the interview inorderto gather socio-demographic information. Subsequently, Mini-International Neuropsychiatric Interview(MINI) for adult was conducted to rule out any psychiatric morbidity among them.

Results:-

In this study a total of 200 participants within the age group of 30 years studying MBBS in Regional Institute of Medical Sciences, Imphal were included.There were four sections in the present study;

- **Section I:** Sociodemographic variables of the participants
- **Section II:**Prevalence of mental disorders among the study participants
- **SectionIII:** Patterns of mental disorders among the study samples
- **Section IV:** Association between sociodemographic variables and study samples

Section I: Sociodemographic Variables Of Participants

Table 1(a):- Distribution among the study population based on Age Group (N=200)

Age Group (In years)	No. of participants	Percentage (%)
<20	32	15.9
21-25	153	76.6
26-30	15	7.5
Total	200	100.0

Table 1(a) shows that the maximum study sample was in age group of 21-25 years (76.6%) followed by the age group less than 20 years (15.9%) followed by the age group 26-30 years(7.5%) of participants.

Table 1(b):- Distribution among the study population based on Gender (N=200)

Gender	No. of participants	Percentage (%)
Male	100	50
Female	100	50
Total	200	100

Table 1(b) shows that male and female are distributed equally among the participants.

Table 1 (c):- Distribution among the study population based on Residence.

Place of residence	No. of participants	Percentage(%)
Urban	155	77
Rural	45	23
Total	200	100.0

Table I(c) shows that maximum participants were resident of urban area (77%) and rest from rural area(23%)

Table 1(d):- Distribution among the study population based on Religion (N=200).

Religion	No. of participants	Percentage(%)
Hindu	118	58.7
Muslim	25	13
Christian	57	28.3
Total	200	100.0

Table I(d) shows that maximum participants were Hindu religion (58.7%), followed by Christian (28.3%) and rest were Muslim (13%).

Table 1(e):- Distribution among the study population based on Socio-economic Status (N=200)

SES	No. of participants	Percentage (%)
Upper middle class	20	10.0
Middle class	123	61.7
Lower middle class	57	28.3
Total	200	100.0

Table I(e) shows that maximum participants were from middle class (61.7%), followed by lower middle class (28.3%) and rest were from upper middle class (28.3%).This is based on BG Prasad's scale

Table 1(f):- Distribution among the study population based on Type of Family(N=200)

Family Type	No. of participants	Percentage (%)
Nuclear	160	79
Joint	40	21
Total	200	100.0

Table I(f) shows that maximum participants were from nuclear family (79%). This was followed by participants belonging to joint family (21%).

Table 1(g):- Distribution among the study population based on Batch of MBBS (N=200)

Batch	No. of participants	Percentage (%)
First MBBS	50	25
Second MBBS	50	25
Final MBBS	50	25
Intern	50	25
Total	200	100

Table I(g) shows 50 participants each from every batches.

Section II: Prevalence Of The Mental Disorders Among The Study Samples.

Table 2:- Prevalence of Mental Disorders among the study samples(N=200).

Mental Disorder	Frequency	Percentage(%)	P-value
Absent	162	81	0.001**
Present	38	19	
Total	200	100	

** Significant at 0.01 level of significance

Table 2. shows the prevalence of Mental Disorders of MBBS student studying in RIMS, Imphal. Out of total 200 study samples 162 samples i.e. 81% had no mental disorders and 38 samples i.e.19 % had mental disorders. It was found to be significant relationship between absent and present of mental disorders as manifested by P-value = 0.001. The finding revealed that majority of the MBBS students were not having mental problem.

Table 3 shows that out of total study samples maximum participants i.e162 participants have no mental disorder (81.1%). However, out of total study samples 13 participants were diagnosed with generalised anxiety disorder (6.5%). This was followed by 8 participants had major depressive disorder (4%), 7 participants had both major depressive disorder and generalised anxiety disorder (3.5%), 5 participants had other anxiety disorder (2.5%), 3 participants had panic disorder (1.5%), 1 participant had somatic symptom disorder (0.5%) , 1 participant had PTSD (0.5%) and no substance use disorders among the participants.

Section III: Patterns Of Mental Disorders Among The Study Samples

Table 3:- Patterns of Mental Disorders among the study samples (N=200).

Patterns of mental disorder	Frequency	Percentage(%)
Major Depressive disorder	8	4.0
Generalised anxiety disorder	13	6.5
PTSD	1	0.5
Panic disorder	3	1.5
Other anxiety disorder	5	2.5
Somatic symptom disorder	1	0.5
Both Depression and GAD	7	3.5
Substance use disorder	0	0
No Mental disorders	162	81.1
Total	200	100.0

Section IV:- Association Between Sociodemographic Variables And Mental Disorders Of Study Samples.

Table 4(a):- Age of respondents and Mental Disorders of the study samples (N=200)

Age of respondents	Mental Disorders			P-value
	Absent n(%)	present	Total	
≤20	27 (17)	5 (13)	32 (16)	0.712
21-25	123 (75)	31 (82)	154 (77)	
26-30	13 (8)	2 (5)	15 (7)	
Total	162 (100)	38 (100)	200 (100)	

Table 4(a) shows that the percentage of presence of mental disorders of MBBS students was maximum in 21-25 years age group(82%) followed by less than or equal to 20 years(13%) and 26-30 years age group (5%) . When statistically applied it was found to have no significant relationship between age of respondents and mental disorders of the study sample as evident by P- value of 0.712.

Table 4(b):- Sex and Mental Disorders of the study samples (N=200).

SEX	Mental Disorders			P-value
	Absent	Present	Total	

	n (%)	n (%)	n (%)	
Male	86 (53%)	14(36%)	100(50%)	0.77
Female	76(43%)	24 (64%)	100 (50%)	

Table 4(b) shows that the percentage of presence of mental disorders of MBBS students is maximum in female (64%) than male(36%). When statistically applied it was found to have no significant relationship between age of respondents and mental disorders of the study sample as evident by P- value of 0.712.

Table 4(c):- Residence and Mental Disorders of the study samples (N=200)

Residence	Mental Disorders			P-value
	Absent n(%)	Present n(%)	Total n(%)	
Urban	128(78)	27(71)	155(77)	3.323
Rural	35(21.5)	10 (29)	45(23)	

Table 4(c) shows that the percentage of the presence of mental disorders of the MBBS students are more in resident of urban area (71%). The result is not statistically significant as P- value is of 3.323.

Table 4(d):- Religion and Mental disorders of the study sample.

Religion	Mental Disorder			P value
	Absent n(%)	Present n(%)	Total n(%)	
Hindu	94 (58)	24 (63)	118 (58)	0.102
Muslim	24 (15)	1(26)	25(13)	
Christian	44 (27)	13(34)	57(28%)	

Table 4(d) shows that the percentage of the presence of mental disorders of the MBBS students are more in Hindu religion(63%), followed by Christian(34%) and Muslim (26%). The result is not statistically significant as P- value is of 0.102.

Table 4(e):- SES and Mental Disorders of the study samples.

SES	Mental Disorder			P-value
	Absent n (%)	Present n(%)	Total n(%)	
Upper middle class	19 (11)	1 (3)	20 (10)	0.196
Middle class	96(60)	27 (71)	123(61)	
Lower middle class	47 (28)	10(26)	57(28)	
Total	162 (100)	38 (100)	200 (100)	

Table 4(e) shows that the percentage of the presence of mental disorders are more in students belonging to middle class SES(71%), followed by lower middle class(26%) and upper middle class(3%).The result is not statistically significant as P- value is of 0.196.

Table 4(f):- Family type and Mental Disorders of the study samples.

SES	Mental Disorder			P-value
	Absent n(%)	Present n(%)	Total n(%)	
Nuclear	134 (83)	126(68)	160 (80)	0.058
Joint	28(18)	12 (31)	40(20)	
Total	162(100)	38 (100)	200 (100)	

Table 4(f) shows that the percentage of the presence of mental disorders of the MBBS students are more in students belonging NuclearFamily(68%).The result is not statistically significant as P- value is of .058.

Table 4(g):- Batch and Mental Disorders of the study samples.

Batch	Mental Disorder			P-value
	Absent n(%)	Present n(%)	Total n(%)	
First	41 (25)	9(24)	50 (30)	0.007
Second	48(30)	2 (5)	50(25)	
Final	35 (100)	15 (40)	50 (25)	
Intern	39(23)	12(32)	50(26)	
Total	162(100)	38(100)	200(100)	

Table 4(g) shows that the percentage of mental disorders are present more in Final MBBS(40%), followed by Interns (32%), First MBBS(24%) and Second MBBS(5%).The result is statistically significant as P- value is of .007.

Discussion:-

The maximum number of participants was in age group of 21-25 years (76.6%) followed by the age group less than 20 years (15.9%) followed by the age group 26-30 years(7.5%) of participants. This is supported by a study conducted by Bhattacharya A et al[7] where maximum proportion of student belonged to age of. The maximum participants were resident of urban area 77% and rest from rural area 23% and majority of the participants were Hindu religion 58.7%, followed by Christian 28.3%)and rest were Muslim 13%. This was supported by study conducted by Bhattacharya A et al[7] where in his study 40(59.70%) students belonged to urban community and rest 40.30% were from rural community and majority were Hindu 77.61% followed by Islam 22.39%.22 years 35 (52.54%).

Majority of the participants were from middle class (61.7%), followed by lower middle class 28.3%and rest were from upper middle class 28.3%. A study conducted by Bhattacharya A et al[7] supports this findings where highest proportion of students belonged to middle class 52.24% followed by upper class 31.34% and lower middle class 16.42%.

Majority of the participants were from nuclear family (79%) and followed by participants belonging to joint family (21%). This was supported by study conducted by Bhattacharya A et al[7] which shows that 80.60% of the students belonged to nuclear family and rest 19.40% belonged to joint family.

The prevalence of Mental Disorders of MBBS student studying in RIMS, Imphal is 19%.Majority of the participants were diagnosed with generalised anxiety disorder (6.5%). This was followed by major depressive disorder (4%), both major depressive disorder and generalised anxiety disorder (3.5%), other anxiety disorder (2.5%), panic disorder (1.5%), somatic symptom disorder (0.5%), PTSD (0.5%) and substance use disorder (0%). This was supported by a study conducted by Iqbal S et al[8] which shows that maximum percentage was 33.4 per cent for anxiety and 13.1 per cent for stress. In contrast to our study, one study conducted by Hakim A et al[2] found that (57.98%) students were found to have depression and anxiety was found to be present in 202 (47.41%) students. Similarly one study conducted by Taneja N et al[6] found that 32.0%, 40.1%, and 43.8% medical students were affected by symptoms suggestive of depression, anxiety, and stress, respectively.

The presence of mental disorders among the MBBS students was present maximum in 21-25 years age group(82%) followed by less than or equal to 20 years(13%) and 26-30 years age group (5%). This was supported by a study conducted by Bhattacharya A et al [7] which shows that Mild depression was high among age group of more than or equal to 22 years (11.94%) followed by (5.97%) amongst 21 years and (1.49%) amongst 20 years students.

Majority of the participants having mental disorders are maximum in female (64%) than male(36%). This was supported by a study conducted by Iqbal S et al[8] which showsthat higher scores of depression, anxiety and stress was associated with female gender. Similarly one study conducted by Sarkar et al[3] also found that females to have higher depression and stress.

Majority of the participants having mental disorders among the MBBS students are present more in students belonging Nuclear Family(68%). This is supported by a study conducted by Bhattacharya A et al[7] where he found that students belonged to nuclear family had more depression(34.33%) compared to joint family (5.97%).

The percentage of mental disorders are present more in Final MBBS (40%), followed by Interns (32%), First MBBS(24%) and Second MBBS(5%). This was supported by a study conducted by Goel AD et al[4] which shows that First year of medical college showed a significantly increasing depression and stress. Similarly, one study conducted by Sidana S et al[25] also found that shows that First year students had the highest prevalence of depression followed by second year students. The presence of mental disorders are present more in students belonging to middle class SES, followed by lower middle class and upper middle class.

Limitation of the Study:-

1. This sample may not be the true representation of the whole population as it is a hospital based study.
2. The sample is small so cannot generalized to whole population.
3. This being a cross-sectional study, follow up of the cases was not done.
4. Period of study was short and time consuming
5. Some participants might be reluctant to disclose the substance use history because of confidentially reason.
6. The different types and severity of mental illness are under-reported.

Scope for Future Research:-

Further, a large multicentric study can be done to corroborate the results more efficiently. So that accurate prevalence of mental health disorders and different patterns of mental disorders can be find out among the students .

Conclusion:-

The present study conducted in the Tertiary Care Hospital, Imphal focussed to find out the prevalence of Mental Disorders among the MBBS students studying in RIMS, Imphal.The maximum number of participants was in age group of 21-25 years.The maximum participants were resident of urban area.Most of the participants were Hindu religion, followed by Christian and rest were Muslim .Majority of the participants were from middle class they were from Nuclear family.

Amongst all the students who are taken in this study as per inclusion and exclusion criteria ,the prevalence of Mental Disorders of MBBS student studying in RIMS, Imphal is 19 %.

Out of total sample of 200, the majorityof the participants were diagnosed with generalised anxiety disorder (6.5%). This was followed by major depressive disorder (4%), both major depressive disorder and generalised anxiety disorder (3.5%), other anxiety disorder (2.5%), panic disorder (1.5%), somatic symptom disorder (0.5%), PTSD (0.5%) and substance use disorder (0%).This study shows that presence of mental disorders among the MBBS students was present maximum in 21-25 years age group.Majority of the participants having mental disorders are maximum in female gender.Majority of the participants having mental disorders among the MBBS students are present more in those who belongs to Nuclear Family and those who are resident of urban area. The percentage of mental disorders are present more in Final MBBS , followed by Interns ,First MBBS and Second MBBS. This also shows that the percentage of the presence of mental disorders of the MBBS students are present more in Hindu religion(63%), followed by Christian(34%) and Muslim (26%).The percentage of the presence of mental disorders are present more in students belonging to middle class SES(71%), followed by lower middle class(26%) and upper middle class(3%).The percentage of the presence of mental disorders of the MBBS students are present more in

students belonging nuclear family(68%).The percentage of mental disorders are present more in Final MBBS(40%), followed by Interns (32%), First MBBS(24%) and Second MBBS(5%).The result is statistically significant as P-value is of 0.007.

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Conflicts of Interest:
None.

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