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A cross sectional and comparative study of attitudes in undergraduate medical students towards Psychiatric illness, Cancer and Diabetes Mellitus.

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Abstract:
Background: *Stigmatizing attitudes of Undergraduate (UG) medical students towards psychiatric illnesses can compromise patient care.*
Aims*:To study the impact of clinical postings on attitude of UG medical students towards Psychiatric illness,Cancer and Diabetes Mellitus(DM).*
Methods*: A total of 120 UG medical students(60-1st year and 60 Internees) constituted the study population.Sociodemographic data was collected.All students rated on Medical Condition Regards Scale(MCRS) for the three conditions separately.Results were analysed on SPSS 20.*
Results*: The mean MCRS scores of first year medical students for psychiatric illness was found to be 46.38±10.5SD,for cancer 51.4±7.2SD and for DM it was 50.45±6.8SD.The mean MCRS scores of internee medical students for Psychiatric illness, Cancer and DM were 52.33±6.34,53.28±6.13 and 54.77±6.2 respectively. MCRS scores for psychiatric illness improved significantly after attending psychiatric posting but remained less than that for Cancer and DM scores. The association between MCRS scores of psychiatric illness and diabetes of first year and internee students were statistically significant. There was statistically significant improvement on items 6, 7, 8,9,10 and 11 for Psychiatric illness on MCRS.There was also a significant improvement on items 7&8 for Cancer and 7, 10 and 11 for Diabetes Mellitus on MCRS scores of study subjects*
Conclusions*: There was only a partial improvement in regard, for all three conditions which needs to be further strengthened by improving training for undergraduates.*
Key words*: attitudes,internees,MCRS , medical student, psychiatry posting*

I. Introduction:

Psychiatry has undergone several developments in the past 50 years. Neurobiological research has improved our understanding of mental illnesses like schizophrenia and depression .Recent advances in psychopharmacology has led to development of newer drugs and has revolutionised the treatment of psychiatric disorders .With better understanding of mental illnesses and several newer drugs being available in the armamentarium of Psychiatrists, it might be expected that there should be improvement in attitudes of doctors towards mental illness. But unfortunately stigmatising attitudes continue to exist among not only general population[1] but also doctors[2] .

An attitude is a hypothetical construct that represents a person's degree of like or dislike for a place, person, thing, item or event. The term 'attitudes' is used to describe the pattern of feelings, beliefs, and reactions that an individual holds regarding particular people, objects, or ideas and are often formed based on an individual's past experiences.[3,4] Pre-existing negative attitudes have the potential to lead people to become close-minded and biased in their interactions with the person for which the attitudes are held .[5]Stigma, detracting stereotypes, and negative attitudes toward medical conditions are a major impediment in the provision of healthcare, with research showing that such attitudes can have a direct impact on patient's well-being and the type of health care they receive .[6]Understanding the attitudes and beliefs towards different medical conditions amongst undergraduate students is a fundamental step in addressing the issue of negative attitudes so often reported in studies.[6,7,8]

There are many reasons for these negative attitudes specially towards psychiatric illness[9]:
a.Lack of accurate information about mental illness.
b.Lack of contact with individuals with mental illness.
c.Lack of familiarity with mental illness.
Such negative attitudes are detrimental not only to patients but also to society especially if they are present in health professionals.

Attitude development towards mental illness takes place during initial undergraduate(UG) medical training. Therefore understanding attitudes of medical students is very important. Studies looking into effect of education, [10] information and UG psychiatry training, [11] have shown positive influence on attitudes of medical students. These attitudes have important implications for planning of mental health policy and mental health programmes for a country.[12]

A previous study which assessed the degree to which medical students enjoy treating patients with twelve types of medical conditions , found that straightforward medical conditions rated highest ,somatoform condition rated lowest.[13] In another longitudinal study authors studied attitude of paramedics and nursing students towards four medical conditions ,(chronic medical conditions, intellectual disability, attempted suicide and acute psychosis).Empathy was more towards medical conditions .[14]. All these studies indicate that medical students are having less regard for psychiatric patients than other medical patients.

With the available sparse literature from lndian studies about the attitude of medical students towards mental illness, majority have shown that there are negative attitudes prevailing.[15,16] Others have found that psychiatric posting is only partially successful in improving negative attitudes,[17,18,19,20] and have recommended changes in current teaching practices to bring about effective change in attitudes .[21] While a few studies have concluded that attending psychiatric postings had brought about positive change in attitude.[22] Author of one study recommended use of experimental and practical methods than didactic methods for improvement of standards of undergraduate students ; thereby decreasing stigma and instilling positive attitudes among them.[23] Another Indian author recommended that theory classes and psychiatric postings should be held simultaneously to generate interest among UG medical students for increasing awareness among them.[24]

However there is a paucity of Indian studies comparing attitudes of medical students across medical and psychiatric illnesses. Hence this comparative study was carried out to assess attitude of medical students towards medical and mental illnesses across different medical years.

II. Aims:

(a) To study the attitudes of first year medical student towards Psychiatric disorders, Cancer and Diabetes mellitus.
(b) To study the attitudes of internee medical students towards Psychiatric disorders, Cancer and Diabetes mellitus.
(c) To compare the attitudes between the two study groups.
(d) To compare the attitudes towards Medical and Psychiatric disorders across both study groups

III. Materials and Methods-

This study was conducted in an urban medical college. Appropriate permission was obtained from the authorities to conduct this study.

3.1 Study Universe-1st year and Internee medical students of an urban medical college.
3.2 Study design-Cross sectional and comparative study.
3.3 Sampling design-Simple random sampling
3.4 Sample size-120(60 each from 1st year and Interns)
3.5 Study Period-September 2015
3.6 Data Collection-Sixty 1st year and Internee medical students each were selected for study by simple random sampling. All the students were explained about the purpose of our study .Students were ensured that participation in the study was voluntary and non participation will not affect their grades. Confidentiality matters were also taken care of. The inclusion criterion for first group was first year students who have not attended psychiatry training yet. The inclusion criterion for 2nd group was internees who had undergone theory and clinical postings in psychiatry. Theory classes included 20 didactic lectures on important psychiatry topics. Clinical postings included bedside teaching, case presentation, lectures and seminars for two weeks. Each student filled up a self reported intake proforma including sociodemographic data. They then rated the items on medical condition regard scale (MCRS)[13] for Psychiatric illness; for Diabetes mellitus and for Cancer on separate scoring sheets. The students were explained that they should not discuss the questions amongst themselves and to give the first spontaneous response that strikes them after reading the statement. Consent was implied by completion of the questionnaire.

3.7Rating scales used in the study:

1. Semistructured questionnaire consisted of sociodemographic data like gender , age background, parental education and occupation.

2. Medical Condition Regard Scale (MCRS). [13]This was developed to provide a measure of attitudes that could be applied to any medical condition and allow for comparison between them. The MCRS is considered valid and reliable and its authors found the scale to have a Cronbach coefficient alpha of 0.87 and a test re-test reliability of 0.84. It is, however, a self-report questionnaire and this needs to be kept in mind in the interpretation of the results as it measures what students report rather than what are necessarily their actual attitudes. The eleven items on the MCRS were rated on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). To reduce the confounding effect of acquiescent responding, five of the eleven items are worded negatively, which are later reverse-scored for analysis (Items 3, 5, 7,8and 11). Item 7 which is "treating patients like this is a waste of medical Dollars" was changed to "treating patients like this is a waste of medical Rupees" to make it relevant for our Indian study. The closer a mean score (for an item) is to six, the more indicative it is of positive regard/attitude toward that medical condition being measured. A score of 3.5 and below for any item is indicative of a negative attitude.

3.8Statistical methods-

Descriptive statistics like means, percentages and standard deviation were used to summarise sociodemographic data and MCRS scores. Inferential statistics (t -test) was used to compare the differences between attitude scores for the three conditions across the two groups. The level of significance was set at $p \leq 0.05$. Data was analysed using SPSS version 20.

IV. Results

Table no. 1 Comparison between groups on mean MCRS† scores.(Independent t-test)

Medical Condition	Student	Mean(SD)	t-Value	Significance
Psychiatric Illness	1st Year(60)	46.38(10.5)	-3.758	0.0*
	Intern(60)	52.33(6.3)		
Diabetes Mellitus	1st Year(60)	50.45(6.8)	-3.651	0.0*
	Intern(60)	54.77(6.2)		
Cancer	1st Year(60)	51.40(7.2)	-1.543	0.12
	Intern(60)	53.28(6.1)		

*Significant

†Medical condition regard scale

A total of 60 1st year medical students and 60 internee students participated in the study. The mean MCRS score of 1st year students was found to be least for psychiatric illness (46.38±10.5SD); and maximum for Cancer (51.4±7.2) .The 1st year student's mean score was 50.45±6.8 SD for Diabetes Mellitus. The mean MCRS score of Internee students was least for Psychiatric illness(52.33±6.34) and maximum for Diabetes Mellitus(54.77±6.2) .Their mean score for Cancer was 53.28±6.13 SD .Even after attending clinical posting ,Psychiatry scores were less than other two conditions.(Table no.1)

The association between MCRS scores for Psychiatric illness and Diabetes Mellitus of 1st year and Internee students was statistically significant on Independent t-test(p=0.00 and 0.00).This suggests improvement of regard amongst medical students after attending psychiatry posting.(Table no.1)

Table no. 2. Comparison between groups on individual item scores of MCRS† for Psychiatric illness

MCRS Items	Student	Mean scores(SD)	t-value	Significance
1	1st year(60)	4.27(1.5)	-1.768	.080
	Intern(60)	4.68(1.0)		
2	1st year(60)	4.48(1.6)	-1.802	.074
	Intern(60)	4.93(1.1)		
3	1st year(60)	3.15(1.7)	-1.520	.131
	Intern(60)	3.62(1.7)		
4	1st year(60)	4.12(1.5)	-1.516	.132
	Intern(60)	4.48(1.1)		
5	1st year(60)	4.58(1.6)	-1.237	.219
	Intern(60)	4.92(1.4)		
6	1st year(60)	4.37(1.4)	-2.368	.020*
	Intern(60)	4.95(1.2)		
7	1st year(60)	5.28(1.4)	-3.248	.002*
	Intern(60)	5.90(0.3)		
8	1st year(60)	3.75(1.5)	-3.332	.001*
	Intern(60)	4.62(1.3)		
9	1st year(60)	4.12(1.3)	-3.380	.001*
	Intern(60)	4.77(0.7)		
10	1st year(60)	3.85(1.5)	-2.201	.030*
	Intern(60)	4.38(1.0)		

11.	1st year(60)	4.42(1.6)	-2.502	.014*
	Intern(60)	5.02(1.0)		

*Significant

†Medical condition regard scale

Table no.3 Comparison between groups on individual item scores of MCRS† for Cancer

MCRS Items	Student	Mean scores(SD)	t-value	Significance
1	1st year(60)	5.02(1.1)	1.473	.143
	Intern(60)	4.70(1.3)		
2	1st year(60)	5.18(1.2)	-.324	.747
	Intern(60)	5.25(1.0)		
3	1st year(60)	3.15(1.5)	.000	1.000
	Intern(60)	3.15(1.6)		
4	1st year(60)	4.98(1.1)	1.196	.234
	Intern(60)	4.73(1.1)		
5	1st year(60)	4.80(1.5)	-1.483	.141
	Intern(60)	5.18(1.3)		
6	1st year(60)	4.55(1.7)	-1.366	.174
	Intern(60)	4.93(1.3)		
7	1st year(60)	5.20(1.3)	-2.337	.021*
	Intern(60)	5.65(0.8)		
8	1st year(60)	4.27(1.6)	-2.677	.008*
	Intern(60)	4.95(1.1)		
9	1st year(60)	4.70(1.0)	-.589	.557
	Intern(60)	4.80(0.8)		
10	1st year(60)	4.50(1.1)	-.248	.805
	Intern(60)	4.55(1.0)		
11	1st year(60)	5.03(1.3)	-1.652	.101
	Intern(60)	5.40(1.2)		

*Significant

†Medical condition regard scale

Table no.4 Comparison between groups on individual item scores of MCRS† for Diabetes Mellitus

MCRS Items	Student	Mean scores(SD)	t-value	Signifiance
1	1st year(60)	5.00(1)	-1.370	.173
	Intern(60)	5.23(0.9)		
2	1st year(60)	4.72(1.5)	-.535	.594
	Intern(60)	4.85(1.3)		
3	1st year(60)	3.72(1.8)	-.515	.607
	Intern(60)	3.88(1.8)		
4	1st year(60)	4.25(1.6)	-1.096	.275
	Intern(60)	4.50(1.2)		
5	1st year(60)	4.95(1.6)	-1.866	.065
	Intern(60)	5.42(1.2)		
6	1st year(60)	4.42(1.7)	-1.311	.192
	Intern(60)	4.78(1.4)		
7	1st year(60)	4.98(1.6)	-3.316	.001*
	Intern(60)	5.72(0.7)		
8	1st year(60)	4.77(1.3)	-1.727	.087
	Intern(60)	5.15(1.1)		
9	1st year(60)	4.55(1.1)	-1.865	.065
	Intern(60)	4.88(0.8)		
10	1st year(60)	4.13(1.3)	-2.968	.004*
	Intern(60)	4.73(0.9)		
11	1st year(60)	4.98(1.4)	-3.127	.002*
	Intern(60)	5.63(0.8)		

*Significant

†Medical condition regard scale

Individual items of MCRS for Psychiatric illness; Cancer and Diabetes Mellitus across both study groups were analysed using Independent t- test.(Table no. 2,3 and 4)

There was a statistically significant difference on items 6,7,8,9,10 and 11 of MCRS scale for Psychiatric illness.(p=0.02;0.002;0.00;0.00;0.03;0.01) There was a statistically significant difference on items 7 and 8 of MCRS for Cancer(p=0.02;0.00).MCRS scores for Diabetes were significant on items 7,10 and 11(p=0.00;0.00;0.00).This suggests that attending Psychiatry posting has brought about a significant change in 6

out of 11 items of MCRS in attitude of medical students towards Psychiatric illness. The same was also reflected in 3 items of MCRS scores of Diabetes and 2 items of Cancer.

Scores for Item 3 of MCRS showed negative attitude for Psychiatric illness and Cancer in 1st year group (mean score 3.15 for both).After attending clinical postings none of the internees rated any item below 3.5 except on item 3 for Cancer (3.15).Internee medical students showed lowest regard for item 3 and highest regard for item 7 across all three conditions.

V.Discussion

The medical students in the first year group of the study sample did not have a favourable attitude towards Psychiatric illness (mean score 46) when compared with that for Cancer (mean score 51) and Diabetes (mean scores 50.4) as shown by mean MCRS scores. This could be because they were not exposed to psychiatric posting in their first year of MBBS .After Psychiatry posting Interns showed significant improvement in the attitude scores for Psychiatric illness and Diabetes mellitus..This was also reflected in an earlier study where there was improvement of scores after a clinical exposure. [25].

Our study showed improvement of attitudes of internees for mental illness (52.3), Diabetes Mellitus (54.7) and Cancer (53.2) after attending psychiatric postings with the scores improving most for Diabetes followed by Cancer and least improvement was seen for Psychiatric illness. .This is in line with a similar study from Canada in which attitudes towards mental illness were compared with those towards type2 diabetes (T2DM) using MCRS .[26]This study also examined the impact of a contact based educational intervention . Stigmatizing attitudes towards mental illness remained greater than T2DM after attending educational intervention.[26] One study was done on 1st,2nd and 3rd year students of six different groups of health related courses (paramedics, nursing,midwifery,physiotherapy, medical and occupational therapists) on three different Psychiatric disorders namely intellectual disability of medical aetiology, substance abuse and acute mental illness using MCRS at Melbourne .[27]Authors analysed individual items of MCRS and found that out of three disorders studied, highest regard was shown for intellectual disability, lowest for substance abuse, and moderate regard for acute mental illness.[27]We studied attitudes for psychiatric illness as a whole and did not compare the attitudes for different psychiatric illness. Another study compared attitudes towards five conditions namely pneumonia, depression, psychotic symptoms ,intravenous drug abuse and long standing abdominal complaints .[28] They reported improvement of scores for respiratory conditions whereas attitudes for unexplained abdominal pain worsened amongst final year students when compared with first year students suggesting least empathy for somatisation disorders.

Many studies concluded that negative attitudes towards mental illness are difficult to control; the reason being ,concerns people have about mentally ill are partially true .[8] As one author pointed out, such patients are not easy to engage with and that better knowledge is required to treat them effectively without stigma.[29]

1st years scored particularly low on Item 3-"there is little I can do to help patients like this" for Psychiatric illness and Cancer(3.15 each) when compared to Diabetes Mellitus(3.72).This could be due to the preformed negative attitudes towards psychiatric illness. The diagnosis "Cancer"is associated with utmost dread amongst the lay public because of the high morbidity and mortality associated with it. Diabetes with comparatively less morbidity and mortality must have been perceived as less dangerous with the symptoms and signs not being so overt and treatment with lifestyle modification being readily available. Interns after Psychiatric posting showed more positive scores on item 3 for MCRS psychiatry scores though not statistically significant. However for Cancer, Interns did not show any improvement on item 3 of MCRS , with the negative attitude persisting(mean 3.15). The same student however was not followed up longitudinally.

MCRS scores for psychiatric illness amongst 1st year students was particularly low on items 4,8,9 and 10.Item 4 was "I feel especially compassionate towards patients like this(4.12);item 8,"Treating patients like this are particularly difficult for me to work with (3.75);Item 9,"I can usually find something that helps patients feel better"(4.12) and item 10 was "I enjoy giving extra time to patients like this"(3.85).This suggests that students were not willing to go one step beyond the level of expected care to help mentally ill patients. However interns showed significant improvement on the scores for items 8,9 and 10 after their Psychiatric posting. Item 7,"treating patients like this is a waste of medical rupees" was scored favourably amongst interns across the 3 conditions suggesting that training has made them realise the efficacy of medical management of these conditions.

Items 6-11 of MCRS showed significant improvement for psychiatric illness. Item 6 was "I would not mind getting up on call nights to care for patients like this";Item 7 was "treating patients like this is a waste of medical Rupees";Item 8 was " treating Patients like this are particularly difficult for me to work with";item 9 was "I can usually find something that helps patients like this feel better";Item 10 was "I enjoy giving extra time to patients like this" and Item 11 was "Patients like this irritate me". In another study also items 7 and 11 were

answered favourably across all three conditions studied namely intellectual disability, substance abuse and acute mental illness. [28]

These changes may be due to the result of training which made Internees realise that patient's symptoms are not intentionally produced and that their erratic behaviour is because of their illness which has bio- psychosocial causes. Observing the patients improve with proper management may have made them realise the important role of health care professionals in treating these patients hence dispelling the preformed myths and society and culture bound distorted cognitions about Psychiatric illness. The Hippocrates oath reminds them to be fair and responsible towards every patient without any prejudice.

Items 1-5 of MCRS score of internee on psychiatric illness did not show any improvement. Item 5 was "I prefer not to work with patients like this". The reason for this might be that these medical students had negative experiences with mentally ill in the past like aggressive behaviour and carried forward the same opinion which was reported by another study. [30] .But this aspect of past negative experiences was not included in our questionnaire.

VI.Conclusions

With the present curriculum there was an improvement in the scores after training in certain aspects only indicating that training needs to be more rigorous to bring about a complete change. There is also an urgent need to dispel the myths about mental illness which is held by the lay public and society which is reflected in the preformed negative attitudes towards mental illness by the students. Psychiatry classes and stress on mental health and mental illness needs to be started right from preclinical years. The bio psycho social model to explain the aetiology of various medical conditions will make them more psychologically minded. This may help in bringing about a positive attitude towards the mentally ill patients whom they will be managing across all clinical conditions at one stage or the other.

6.1 Implications- In India the prevalence of serious mental illness is 6.5% (roughly 11 million people)[31] and increasing by the day with increase in stress of day to day living.. In India as such the patient to psychiatrist ratio is poor. The negative attitudes and ignorance of the available health care givers towards mental illness will further worsen the situation. There are just 0.4psychiatrists and 0.02 psychologists /100000 people as per WHO.[32]In India with less than 0.5 psychiatrists per lakh people it is still lower.[33]The responsibility of care of mentally ill lies in the hands of General Physicians and Practitioners especially in a limited resource setting like India. Training should start from UG level for reducing stigma and negative attitudes because these UG medical students are the ones who are going to be involved in the care of patients directly or indirectly during their future careers. Results of this study will go a long way to improve education and change negative attitude of budding General Practitioners and Physicians.

6.2 Limitations- This was a cross sectional study with limited number of students from a single urban medical college. The same student was not followed up longitudinally. Psychiatric illness as a whole was studied .Regard for different diagnosis of Psychiatry was not studied.

6.3 Future recommendations-A longitudinal study with a larger sample from different medical colleges is recommended to study various factors influencing negative attitudes towards psychiatric illness.

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