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Factors affecting stigma and attitudes of undergraduate medical students towards mental illness

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Abstract: *People with mental illness frequently face stigma, prejudice and discrimination by both public and health care providers throughout the world. This study was taken up with objectives of studying influence of knowledge and sociodemographic factors on stigma and attitudes towards mentally ill patients.A study sample of 60 medical students each in first year and internees were administered Social distance scale(SDS) and Dangerousness scale(DS) to assess stigma and Medical condition regard scale (MCRS)to assess attitudes towards mental illness. A Semi structured proforma was used to note sociodemographic data and knowledge of study subjects towards aetiology, clinical features and diagnosis of mental illness. The mean score of SDS for first year medical students was 11.27±3.45 and that for internees was 10.25±3.5.The mean DS score was 32.73±8.2 for first year and 28.20±5.8for internees. The mean MCRS scores of first year medical students for psychiatric illness was 46.38±10.5SD and that for internee medical students was 52.33±6.34.There was a significant difference in the comparison of knowledge of mental illness regarding etiological factors like individual's personality(p=0.003), environmental factors(p=0.001),substance abuse(p=0.00) and head injury(p=0.03);clinical features like poor concentration (p=0.02) and violence(P=0.04) and epilepsy(p= 0.02) as diagnosis across both study groups. Significant sociodemographic factors associated with stigma and attitudes were age(p=0.00)gender (p=0.00) ;domicile(p=0.00);parental education(p=0.00)and parental occupation as doctors(p=0.00) . There was a statistically significant negative correlation between MCRS scores for psychiatric illness and SDS scores and DS scores. (P value= 0.003 and p=0.00).Attending psychiatric postings was found to be only partially successful in improving stigma and attitudes towards Psychiatric illness. Increasing duration of psychiatric postings hasbeen recommended.*

Key words: *attitude, medical students, mental illness, stigma.*

I. Introduction

According to WHO it was estimated that there are 450 million people in the world currently suffering from some kind of mental illness. This constitutes 14% of global burden of disease.[1] The prevalence of mental disorders in India is high with an estimation of 58 per 1000 people.[2] About 10 million Indians suffer from mental illness.[3]On the other hand there is a paucity of psychiatrists in India with less than 0.5 per 1lakh population.[4]

Attitudes and beliefs about mental illness are shaped by personal knowledge,knowing and interacting with someone with mental illness,cultural stereotypes,media stories , familiarity with institutional practices and past restrictions(employment,health insurance etc).[5,6] These beliefs and attitudes towards mental illness also indicate how people experience and express their own emotional problems and seek care for the same.For doctors this can be a major issue of concern as it will also affect the care they give to their patients. Lay people also will get influenced and follow the footsteps of these doctors and may neglect them. This will further worsen the situation of mentally ill patients.

Stigma has been described as a cluster of negative attitudes and beliefs that motivate the general public to fear,reject,avoid and discriminate people . Stigma stands as an obstacle in the presentation, detection and treatment of mental illness.[7] Stigma is an amalgamation of three inter related problems KAP: (a) lack of knowledge (ignorance) (b)negative attitudes (prejudice) and (c)avoidance behaviour(discrimination)[8,9] There is a huge gap between knowledge, attitudes and behaviours or performance. People from rural areas even today attribute supernatural powers, witchcraft and black magic powers to be the cause of mental illness. They turn to faith healers and quacks for treatment. Similarly out of ignorance, general practitioners do not refer patients to psychiatrists thus further delaying treatment(further widening the gap of KAP.)[10]

High levels of ignorance, prejudice and discrimination towards mentally ill has been confirmed by studies among medical students and health professionals all over the world.[11-16] Reducing stigma associated with mental illness is an important aim of medical education to remove barriers for those seeking or receiving treatment for psychiatric illness..[9] Educational interventions are more effective if given during training, as they are more amenable to change.[17] Better knowledge about aetiology, clinical features

,diagnosis and treatment of mental illness plays an important role in improving attitudes of public ,medical students and mental health professionals .[11,12]

Many Indian studies have been carried out on impact of psychiatric postings on stigma and modifying attitudes of medical students towards patients with mental illness. Majority of these studies have noted negative attitudes initially and partial improvement following clinical posting . [16,18,19,20,21,22] On the other hand ,some studies also noted positive changes .[23,24,25,26] Only one study reported overall attitudes did not differ before and after postings.[27] Another study reported more stigma among clinical(surgery) postgraduates than nonclinical post graduates .[26] In the same study it was found that paradoxically negative attitudes were more amongst clinical postgraduates(Surgery) than Internees.[26]

Negative attitudes were reported to be prevalent among general practitioners(GP) and specialists. [28,29]Very few studies have focused on sociodemographic factors and their influence on negative attitudes. [21,22,26,30]

Majority of Indians still reside in rural areas ,but most of the Psychiatrists are concentrated in urban areas.Hence the care of mentally ill amongst rural people rests on the shoulders of general practitioners(GP) and general physicians ,necessitating sensitisation of budding doctors . Mental illnesses like neurosis ,substance abuse and adjustment problems first come in contact with the GP or Physicians.

Hence this study was conducted on medical students to study the factors influencing their attitudes and how effective psychiatric postings are in reducing stigma and improving their regard towards Psychiatric patients.

II. Aims

2.1. To study the stigma and attitudes of first year and internee medical students
2.2. To compare the knowledge of mental illness between first year and internee medical students.
2.3. To study the correlation between stigma and attitudes .
2.4. To study the association between sociodemographic factors and stigma and attitudes towards mental illness.

III. Materials and methods

3.1. Type of study :Cross sectional study.
3.2. Place of study:Urban medical college Hyderabad ,Telangana state.
3.3. Study period: September 2015.
3.4. Size of sample: 120(60 first year,60 internee)medical students.
3.5. Sampling method- Simple random sampling.
3.6. Inclusion criteria:
3.61. First year students who have not attended psychiatric posting.
3.62. Internees who have attended Psychiatric postings.(Psychiatric posting consisted of twenty didactic lectures ,two weeks of bedside teaching, case presentation and assessment exam on last day of posting.
3.7. Procedure

Prior permission was obtained from concerned authorities before carrying out the study. The medical students were explained about the purpose of study . Students were ensured that participation in the study was voluntary and nonparticipation will not affect their grades. Confidentiality matters were taken care of. Those who were willing to participate were asked to fill the semi structured intake proforma containing sociodemographic details and questions related to knowledge of psychiatric illness. Attitude towards mentally ill was assessed using Medical condition regard scale(MCRS)[31].Stigma was assessed using Social distance scale(SDS)[32]and Dangerousness scale(DS)[33]. 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.

3.8. Rating scales
3.81. Semistructured questionnaire consisted of sociodemographic data like gender ,age, parental education, occupation and questions related to knowledge of mental illness (etiological factors , clinical features and diagnosis of mental illness).
3.82 . Medical Condition Regard Scale (MCRS) .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 reversed-scored for analysis (Items 3,5,7,8and 11). 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 each item is indicative of a negative attitude.[31]

3.83. Social distance scale comprises of 7 statements that refer to interaction with the target individuals. Each statement was rated by the subjects on a 4 point Likert scale(0=definitely willing to 3=definitely unwilling).A composite measure of social distance is derived by totalling the scores of all statements.The higher the score more the discrimination and stigmatization is demonstrated. The internal consistency (Cronbachs alpha) of this measure was 0.75.[32]
3.84. Dangerousness scale by Penn and Link was used to gauge individual beliefs about whether a person who is or has been mentally ill is likely to be a danger to others.It has 8 items.Responses to each item was rated on a 7 point likert scale from strongly disagree =1 to strongly agree=7 with the midpoint being no opinion.A high statement response indicated a more negative attitude.It has internal consistency of 0.78.[33]
3.9. Statistical analysis:
Descriptive statistics like means, perentages and standard deviation were used to summarise SDS,DS and MCRS scores.Inferential tests like t- test,chi square ,Anova and Pearson's correlation was used to analyse stigma scores and influence of knowledge .Nonparametric tests like kruskal Wallis tests were used to analyse influence of sociodemographic factors as they were unequally distributed.The level of significance was set at $p \leq 0.05$.
Data was analysed using SPSS version 20

IV. Results

A total of 120 study subjects (60 first year, 60 internee) participated in the study.The mean score of SDS for first year medical students was 11.27±3.45 and that of internees was 10.25±3.5.The mean
DS score was 32.73±8.2 for first years and 28.20±5.8for internees.The mean MCRS scores for first year medical students for Psychiatric illness was 46.38±10.5SD and that for internee medical students was 52.33±6.34.

Table no.1Comparison between groups on Psychiatry Knowledge(Etiology)

Etiology	1st Year(60)		Intern(60)		Significance
	Yes	No	Yes	No	
Genetic	41	19	44	16	0.547
Life Events	45	15	48	12	0.512
Personality	20	40	37	23	0.002**
Environmental	19	41	38	22	0.001**
Upbringing	23	37	32	28	0.09
Substance abuse	22	38	42	18	0.00**
Infection	8	52	15	45	0.10
Head Injury	13	47	24	36	0.03**
Brain Damage	22	38	32	28	0.06

**Significant

The knowledge of mental illness(etiological factors ,clinical features and diagnosis) in these two study groups were compared using chi square test to assess whether attending psychiatric postings made any difference. There was a significant difference in the knowledge of etiological factors like personality(p=0.003), environmental(p=0.001),substance abuse(P=0.00) and head injury(p=0.03) across both study groups suggesting that after attending psychiatric posting internees developed a bio psychosocial model of approach towards aetiology of mental illness. Other possible etiological factors like genetic, life events, upbringing, infection and structural brain lesion were insignificant.(Table no.1)

Table no.2 Comparison between groups on Psychiatry Knowledge(Clinical Features)

Clinical features	1st Year(60)		Intern(60)		Significance
	Yes	No	Yes	No	
Guilt	25	35	27	33	0.713
Poor concentration	23	37	35	25	0.028**
Irrational Fears	38	22	40	20	0.702
Sadness	30	30	34	26	0.464
Impaired biological functioning	34	26	41	19	0.187
Erratic Behaviour	43	17	46	14	0.532

Repeated Acts	29	31	38	22	0.098
Violence	24	36	35	25	0.04**
Suspiciousness	31	29	37	23	0.269
Self injurious behaviour	42	18	43	17	0.841

** Significant

On comparison of knowledge of clinical features of mental illness, there was a statistically significant difference for symptoms like poor concentration(p=0.02) and violence(P=0.04) only .Other common symptoms like feeling guilty , irrational fear,sadness,having trouble with sleep and eating ,erratic behaviour, repeated acts, suspiciousness and self injurious behaviour were not significant. This indicates that there has to be change in the present curriculum to educate them better about the common symptoms and signs of mental illness.(Table no. 2)

Table no.3 Comparison between groups on Psychiatry Knowledge(Diagnosis)

Diagnosis	1st Year(60)		Intern(60)		Significance
	Yes	No	Yes	No	
Phobia	28	32	33	27	0.36
Anxiety	32	28	39	21	.194
Mania	35	25	42	18	0.183
Depression	45	15	46	14	.831
Schizophrenia	39	21	45	15	.232
Mental retardation	22	38	26	34	.456
Epilepsy	1	59	7	53	.028**

** Significant

98% of first year students felt that epileptic patients do not present to Psychiatric clinics and 80% of internees felt the same. 20% of internees felt that epileptic patients do develop Psychiatric problems. (p=0.02).This points towards understanding of few internees that epilepsy is a neuropsychiatric illness and may present with psychiatric symptoms in preictal,ictal and postictal phases.The knowledge of other common diagnoses like phobia,anxiety disorders,mania,depression, schizophrenia and mental retardation did not show any significant difference between the two groups suggesting inadequacy of their training.(Table no. 3)

Table no.4 Correlations between MCRS*,SDS†and DS‡ scores

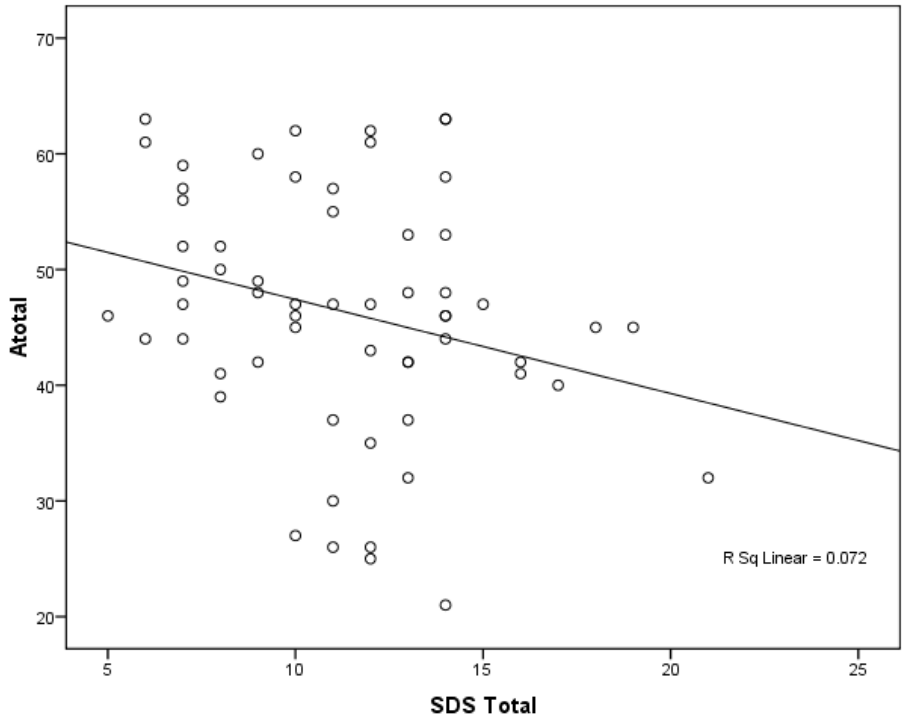
		MCRS total	DS total	SDS Total
MCRS Total	Pearson Correlation	1	-.344**	-.270**
	Sig. (2-tailed)		.000	.003
	N	120	120	120
DS total	Pearson Correlation	-.344**	1	.421**
	Sig. (2-tailed)	.000		.000
	N	120	120	120
SDS Total	Pearson Correlation	-.270**	.421**	1
	Sig. (2-tailed)	.003	.000	
	N	120	120	120

**. Correlation is significant at the 0.01 level (2-tailed).

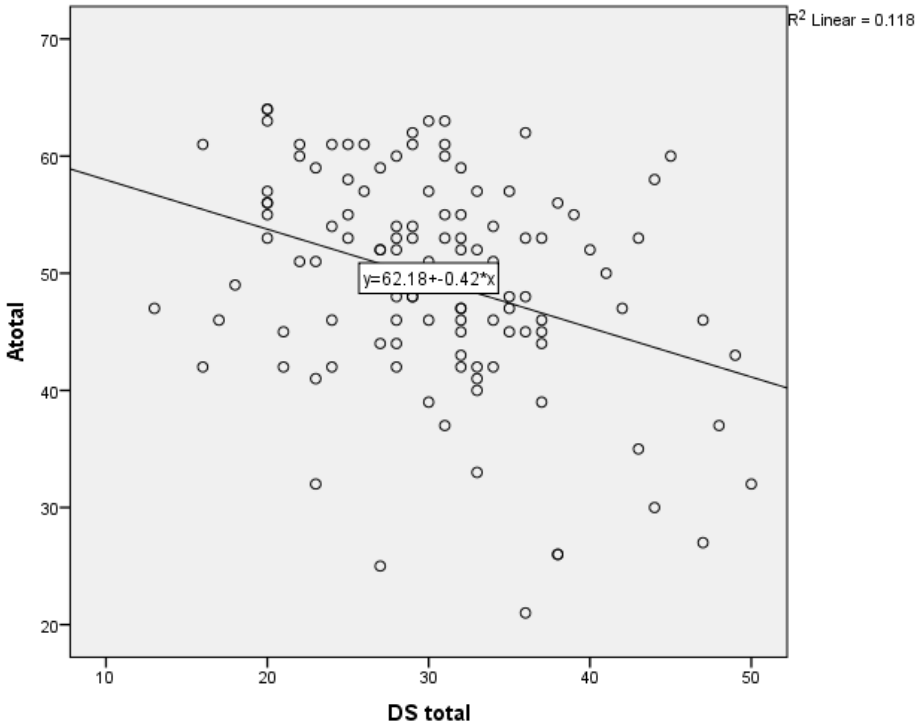
* MCRS-Medical condition regard scale SDS-Social distance scale

† SDS-Social distance scale DS-Dangerousness scale

‡ DS-Dangerousness scale



Atotal-Medical condition regard scale total scores
SDS Total-Social distance scale total scores
Figure-no 1-Correlation between Scores.



Atotal-Medical condition regard scale total scores
DS total-Dangerousness scale total scores
Figure no. 2. Correlation between scores.

Pearson correlation test between MCRS , SDS and DS revealed negative correlation between MCRS scores for psychiatric illness and SDS scores(p=0.003) and DS scores(p=0.00).(Table no.4,Fig 1,2)

Table no.5 Comparison between gender and scores(one way anova)

Scale	Group	Mean(SD)	F value	Significance
SDS	1st year Male(28	11.04(2.6)	1.448	.232
	1st year female(32	11.47(4)		
	Internee male(33	10.76(3.4)		
	Internee Female(27	9.63(3.6)		
DS	1st year Male(28	32.50(8.1)	4.120	.008
	1st year female(32	32.94(8.4)		
	Internee male(33	28.73(5.6)		
	Internee Female(27	27.56(6.1)		
MCRS	1st year Male(28)	44.54(11.5)	5.632	.001
	1st year female(32)	48.00(9.4)		
	Internee male(33	51.79(7.2)		
	Internee Female(27	53.00(5.2)		

There was a significant difference between the genders when DS scores and MCRS scores were compared.(p=0.008,0.001 respectively)(Table no. 5) Post Hoc Tests (LSD) revealed that I^{st} year male scores of SDS when compared with that of Internee females was significant(0.046)On DS scores,I^{st} year male when compared with Internee male and Internee female scores was significant(0.04 and 0.012 respectively).On DS scores 1^{st} year female scores was significantly associated with Internee Male scores(0.02) and Internee female scores(0.005).On MCRS ,I^{st} year male scores were significantly associated with Internee male scores(0.001) and Internee female scores(0.00).1^{st} year female scores were significantly associated with Internee female scores(0.029).

Table no. 6 Comparison between scores in different age groups

Scale	Group	Mean(SD)	F value	Significance
SDS	1st year <25(60)	11.27(3.45)	1.991	.141
	intern<25(39)	10.64(3.6)		
	Intern>25(21)	9.52(3.4)		
DS	1st year <25(60)	32.73(8.3)	6.431	.002
	intern<25(39)	27.59(5.4)		
	Intern>25(21)	29.33(6.5)		
MCRS	1st year <25(60)	46.38(10.5)	8.807	.000
	intern<25(39)	50.87(6.2)		
	Intern>25(21)	55.05(5.8)		

The association between age of study subjects and DS and MCRS scores was statistically significant. (p=0.002,0.00 respectively) .All the 1^{st} years and 39 Internees were aged below 25 .21 Internees who were aged above 25 years had lesser stigma and more positive attitudes towards mental illness.(Table no.6)

Table no 7. Socidemographic scales and DS*,SDS† and MCRS ‡ scores(Kruskal-Wallis Test)

Socio demography	Scale	Group(n)	Mean(SD)	Mean Rank	Significance
Background	DS	1st year rural(14)	33.21(7.8)	73.11	0.003**
		1st year urban(46)	32.59(8.5)	70.95	
		Internee rural(17)	30.41(6.6)	59.97	
		Internee urban(43)	27.33(5.3)	45.43	
	SDS	1st year rural(14)	11.07(2.3)	65.61	.238
		1st year urban(46)	11.33(3.7)	65.08	
		Internee rural(17)	11.24(3.6)	65.88	
		Internee urban(43)	9.86(3.4)	51.81	
	MCRS	1st year rural(14)	43.71(11.80	42.11	0.004**
		1st year urban(46)	47.20(10)	51.96	
		Internee rural(17)	51.41(6.8)	65.94	
		Internee urban (43)	52.70(6.2)	73.48	
Religion	DS	1st year Hindu(53)	32.04(8)	69.40	.015**
		1st year Muslim(5)	37.60(9.7)	85.40	
		1st year Christian(2)	39.00(11.3)	91.00	
		Intern Hindu(51)	28.14(6)	49.41	
		intern Muslim(6)	29.67(5.6)	56.75	
		Intern Christian(3)	26.33(3.8)	37.50	
	SDS	1st year Hindu(53)	11.06(3.6)	62.57	.304
		1st year Muslim(5)	12.60(2.2)	81.00	
		1st year Christian(2)	13.50(0.7)	95.50	

		Intern Hindu(51)	10.33(3.6)	62.57	
		intern Muslim(6)	10.33(3.6)	81.00	
		Intern Christian(3)	8.67(1.1)	95.50	
	MCRS	1st year Hindu(53)	47.15(10.7)	53.06	.006**
		1st year Muslim(5)	40.20(7.7)	23.50	
		1st year Christian(2)	41.50(6.4)	25.00	
		Intern Hindu(51)	52.08(6.6)	70.17	
		intern Muslim(6)	53.50(4.03)	76.75	
		Intern Christian(3)	54.33(6.1)	80.50	
Parental Education					
1st year's mothers	DS	Literate(57)	32.65(8.4)	70.87	.006**
		Illiterate(3)	34.33(4.9)	82.50	
Internee's mothers		Literate(54)	28.07(6)	48.69	
		Illiterate(6)	29.33(4.3)	57.25	
1st year's mothers	SDS	Literate(57)	11.28(3.5)	65.19	.244
		Illiterate(3)	11.00(3.5)	65.33	
Internee's mothers		Literate(54)	10.02(3.5)	53.71	
		Illiterate(6)	12.33(3.5)	74.58	
1st year's mothers	MCRS	Literate(57)	46.33(10.6)	49.54	.009
		Illiterate(3)	47.33(9)	52.00	
Internee's mothers		Literate(54)	52.43(6)	71.35	
		Illiterate(6)	51.50(9.7)	71.25	
1st year's Fathers	DS	Literate(58)	46.53(10.5)	71.70	0.005**
		Illiterate(2)	42.00(14.1)	64.25	
Internee's Fathers		Literate(59)	52.20(6.3)	50.10	
		Illiterate(1)	60.00	17.00	
1st year's Fathers	SDS	Literate(58)	11.31(3.5)	65.61	0.146
		Illiterate(2)	10.00(4.2)	53.25	
Internee's Fathers		Literate(59)	10.14(3.4)	54.81	
		Illiterate(1)	17.00	114.50	
1st year's Fathers	MCRS	Literate(58)	46.53(10.5)	50.06	0.005**
		Illiterate(2)	42.00(14.1)	38.00	
Internee's Fathers		Literate(59)	52.20(6.3)	70.78	
		Illiterate(1)	60.00	104.50	

* Dangerousness scale
† Social distance scale
‡ Medical condition regard scale
** Statistically significant

Background,mothers literacy,fathers literacy and religion had significant influence on DS scores and MCRS scores.But there was an unequal distribution with more representations from urban background,literate parents and hindu religion. Hence we can suggest that these factors possibly have an influence and cannot conclude till a matched sample is compared.(Table no.7)

Table no.8. Parental Occupation and DS*,SDS† and MCRS‡ scores.

Sociodemography	Scale	Group	Mean(SD)	Mean Rank	Significance
Mothers Occupation	DS	Homemaker(87)	30.41(7.2)	60.83	0.346
		Professionals(31)	30.00(8)	57.05	
		semi skilled(1)	47.00	116.50	
		Unskilled(1)	33.00	82.50	
	SDS	Homemaker(87)	10.83(3.4)	60.92	0.268
		Professionals(31)	10.29(3.7)	56.39	
		semi skilled(1)	14.00	101.50	
		Unskilled(1)	16.00	110.50	
	MCRS	Homemaker(87)	48.80(9.7)	58.91	0.739
		Professionals(31)	50.94(7.6)	65.42	
		semi skilled(1)	46.00	38.50	
		Unskilled(1)	52.00	68.50	
Fathers Occupation	DS	Unemployed(2)	33.00(2.8)	78.50	0.347
		Professional(76)	29.76(7.3)	56.91	
		Semiskilled(30)	32.47(8.3)	69.27	
		Unskilled(12)	29.50(6.9)	58.29	
	SDS	Unemployed(2)	14.50(0.70)	104.75	0.253
		Professional(76)	10.43(3.2)	57.69	
		Semiskilled(30)	11.10(4.2)	63.33	
		Unskilled(12)	11.33(3.7)	63.83	

	MCRS	Unemployed(2)	55.00(11.3)	81.00	0.457
		Professional(76)	49.21(9.2)	59.99	
		Semiskilled(30)	50.63(8.3)	65.12	
		Unskilled(12)	46.17(10.4)	48.79	
Parent Doctor					
1st year	DS	Yes(12)	31.42(9.4)	64.42	0.005**
		No(48)	33.06(8)	73.21	
Internees		Yes(8)	29.50(5.7)	56.56	
		No(52)	28.00(5.9)	48.47	
1st year	SDS	Yes(12)	9.00(1.9)	41.25	0.009**
		No(48)	11.83(3.5)	71.19	
Internees		Yes(8)	8.25(3.4)	38.75	
		No(52)	10.56(3.4)	58.42	
1st year	MCRS	Yes(12)	49.17(11.8)	62.00	0.003**
		No(48)	45.69(10.1)	46.57	
Internees		Yes(8)	53.38(4)	76.69	
		No(52)	52.17(6.6)	70.52	

* Dangerousness scale
† Social distance scale
‡ Medical condition regard scale
** Statistically significant

Parental occupation in general did not influence the scores significantly. Parents being doctor had a significant influence on DS,SDS and MCRS scores (p=0.005,0.009 and 0.003 respectively).But the groups were not matched with very few (12) parents being Doctors,hence we cannot conclude.(Table no.8)

V. Discussion

In our study first year students had stigma and negative attitudes towards Psychiatric patients which improved partially after attending psychiatric postings in internee group. This is in line with studies done in many countries, which showed negative attitudes ,stigma and discrimination towards mentally ill[11,13,14,19,34] and was amenable to change with undergraduate psychiatric postings [11,24,25,26]

Most Indian studies carried out in the past(before psychiatric postings were mandatory)reflected negative attitudes and internship postings did not help much in bringing about change in attitudes. [20,27,28,29]Since the time MCI has made psychiatric postings compulsory for internees (2011), [35]there has been a trickle of studies showing positive attitudes . [24,25,26]

Internees showed significant improvement in acknowledging the four etiological factors of mental illness like personality, environmental, substance abuse and head injury in our study. Similarly knowledge for two clinical features like poor concentration and violence also improved .Internees also developed the concept of neuropsychiatric interface of epilepsy. They might have understood that 30-50% of epileptic patients have psychiatric problems, pseudoseizures may coexist with true seizures , psychosocial aspects of diagnosis of epilepsy for a psychiatric patient and psychological effects of antiepileptic medication.[36] These may be the reasons why some internees considered epilepsy as a psychiatric problem too.An earlier study found significant improvement in knowledge of many etiological factors like genetic, environmental, infection ,injury, personality, drugs, life events and structural brain lesion in medical students after attending psychiatric postings.[11]They also reported a significant improvement in awareness of clinical features like unkempt appearance ,delusions, hallucinations and sadness and psychiatric diagnosis like Phobia, Mania, Anxiety disorder , Depression and Epilepsy .[11]The considerable improvement in knowledge in all spheres was probably attributed to 8 weeks of posting whereas in our study internees attended postings for only two weeks. Other studies carried out in India, Singapore and Nigeria also replicated that stigma and attitudes improved considerably among internees, after attending posting for eight weeks.[37,38,39]

Among the sociodemographic factors of study sample; age , gender,background,religion,parental literacy and parental occupation as Doctors were associated with significant change in attitudes.Age indirectly represents improvement in internee group again because of postings; 21 of them were above 25years,where as all first years were below 25 years. Females showed higher mean scores on MCRS and showed significant improvement in attitudes than their male counterparts.Earlier studies also reported less stigma among females[22,38,39] while others reported contrary results.[21,26,34,40,41] Our study reported less stigma and more positive attitude amongst urban background students which was also seen in another study[26] .But our sample was not matched for background .Other Indian studies have found medical students born and brought up in rural areas have less stigma and more positive attitudes .[22,30] Possibly rural people were more tolerant towards abnormal behaviour . Parental literacy,religion and parental occupation also had a significant influence on scores in our study. But since the groups were not matched we cannot conclude about their role.

Our study finding of inverse correlation between stigma and attitudes indicated that high stigma scores were associated with a corresponding low regard towards psychiatric patients .

5.1. Implications of our study

Our study has further reiterated that psychiatric training needs to be more vigorous for undergraduate students as they will be dealing with mental illness at some stage or the other irrespective of their speciality.

5.2. Limitations Ours was a small sample from a single urban medical college. It was a cross-sectional study. The groups were not matched for comparison of sociodemographic data. Hence results should be interpreted with caution.

5.3. Future recommendations

Interest and attendance in psychiatry can be improved by starting a brief orientation program for first year medical students.Increasing the duration of psychiatric postings to 4-6 weeks is also being recommended by authors.Doctors who are working as teachers in medical colleges will have to be sensitised and updated with workshops and enrichment programs about recent advances and newer therapies in psychiatry because they are the ones who teach the medical students. Government should take up the task of making policies towards proper implementation of such programmes.

VI. Conclusions

Current training in psychiatry by way of postings and theory classes seems to be only partially successful in bringing about improvement in stigma and attitudes of medical students towards Psychiatric patients. These negative attitudes are amenable to change by educating UG medical students from first year itself.

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