



# Attitude of medical undergraduate and postgraduate students towards psychiatry: a cross-sectional study

## Abstract

**Background:** It is a universally known fact that psychiatric disorders are common, affecting millions of populations worldwide. Psychiatry as a discipline of medicine has been emerging in the recent years. Nevertheless, it has become apparent from studies that there has been a negative attitude towards psychiatry presumably due to the prevailing various myths and misconceptions in a budding medical student's mind. **Objectives and methodology:** Aim was to assess and compare the attitude of undergraduate and postgraduate medical students towards psychiatry and to know the gender differences in the attitude. This is a cross-sectional study. Participants consisted of students studying in SN Medical College, Bagalkot. Subjects were given specially designed socio-demographic proforma and Attitudes Toward Psychiatry-30 items (ATP-30) questionnaire which is a five-point attitude scale for assessing the attitude. The data collected was analysed with the help of SPSS version 11. **Result:** The sample consisted of 469 subjects of which 48% were males and 52% were females. In total, 80.8% (n=379) subjects reported to have positive attitude towards psychiatry. Females had more positive attitude than male. We did not find any difference in the attitude of undergraduate and postgraduate students. **Conclusion:** Even though our study revealed a positive attitude towards psychiatry, there is always a way for improvements in the form of better psychiatry training at the undergraduate level. There is a need to conduct multi-centric studies which can involve larger sample size.

**Keywords:** Medical Students. Mental Disorders. Social Stigma.

**Narayan R Mutalik<sup>1</sup>, Tejaswi TP<sup>2</sup>,  
Manjula Kashinakunti<sup>3</sup>, SB Choudhari<sup>4</sup>**

<sup>1</sup>Assistant Professor, Department of Psychiatry, SN Medical College, Bagalkot, Karnataka, India, <sup>2</sup>Junior Resident, Department of Psychiatry, SN Medical College, Bagalkot, Karnataka, India, <sup>3</sup>Associate Professor, Department of Community Medicine, SN Medical College, Bagalkot, Karnataka, India, <sup>4</sup>Professor, Department of Psychiatry, SN Medical College, Bagalkot, Karnataka, India

**Correspondence:** Dr Narayan R Mutalik, Assistant Professor, Department of Psychiatry, Staff Quarters. C-35, SN Medical College & HSK Hospital, Navanagar, Bagalkot-587102, Karnataka, India. narayanmutalik@gmail.com

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## Introduction

Attitude is sometimes defined as a mature way of thinking or feeling about some object or a situation compelling to respond in some manner as per one's preferences. Attitude of a medical student towards psychiatry is determined by various factors like personality, past experiences, training in medicine and psychiatry, experiences in the medical college, influence by the faculty. This attitude is important in deciding psychiatry as their career choice.[1]

Neuropsychiatric disorders are presumed to rank as the fourth leading cause of disease burden in India after cardiovascular diseases, infectious diseases, and accidents as per the predicted estimates for the year 2020.[2] Most people reveal unfavourable opinion toward mentally ill patients. The quality of life for people suffering from psychiatric disorders gets affected by the social stigma and negative attitudes.[3] There can be several reasons for the negative attitude like inadequate awareness about psychiatric illnesses, lack of contact with individuals with psychiatric disorders, and lack of familiarity.[4]

Numerous studies report that there exists a conflict of interest in taking up psychiatry speciality as the career choice. Some studies argue that the undergraduate psychiatry

training is disorganised and improper. Other studies report that psychiatrists earn less money, and acquire less respect and less prestige.[5] Medical students' attitudes toward psychiatry form the stepping stone for making their decisions to pursue psychiatry as a career and also help in their future relationships with psychiatric patients.[6,7] None of the professionals in the healthcare field is immune to societal judgements. They also share the general public's attitude attributed to psychiatry patients.[8]

There are several literatures which show the attitude of medical students towards psychiatry, but Indian studies are few in number. The importance of this study in India is more due to the existence of various superstitious beliefs and practices related to mental illnesses. Since medical students are the budding population stepping into the field of medical practice, their attitude towards mental health field is of utmost importance. Considering the above given facts, though there is awareness among the fraternity there is relatively very little research in Indian context. It makes this study an important step towards understanding attitude of students who are the future of healthcare system. This study is one of the initial steps towards a better understanding and thereby better implementing of healthcare services to the less privileged mentally ill patients.

## Methodology

### Study design

Cross-sectional study.

### Study group

Undergraduate and postgraduate students studying in S. Nijalingappa Medical College (SNMC), Bagalkot.

### Study period

June 2016.

### Sample size and its calculation

Sample size calculation was done using Open Epi software 2.3.1 at 95% confidence level. According to a study by Mohammed *et al.*, [9] the proportion of patient with positive attitude is 70.7%. At ten per cent relative precision, sample size calculated to be 163. We adopted convenience sampling. We included all the students as per the inclusion and exclusion criteria, and questionnaires were given to all the students in the class.

### Inclusion criteria

1. Age between 18-30 years.
2. Undergraduate and postgraduate students in SNMC.
3. Those who gave written informed consent.

### Exclusion criteria

1. Postgraduate students pursuing psychiatry course.

### Collection of samples

Ethical clearance was obtained from the Institute's Ethics Committee (Human Studies). Written informed consent was taken from all study subjects, before enrolment in the study. The nature and the purpose of the study were explained briefly to the study population in the informed consent form and then the study population were recruited according to inclusion-exclusion criteria. Then, specially constructed semi-structured proforma and a standardised self-answering questionnaire called Attitudes Toward Psychiatry-30 items (ATP-30) [10] were given to the participants.

### Semi-structured proforma

It contained socio-demographic details like name, age, gender, year of education, residential background, family and personal history of psychiatric illnesses, and few other questions not included in ATP-30 scale like whether one accepts a psychiatric patient as their life partner, whether psychiatrists turn insane after sometime, and few more.

### ATP-30 scale

It is a 30-item Likert scale which has been validated for assessing the attitudes of different populations towards psychiatry. It can be answered in around ten minutes for each participant. It examines the viewpoint of a participant and his strength to multiple areas of psychiatry. It consists of questions which will cover various areas related to psychiatry

like the patients with mental illnesses, mental illness, knowledge about psychiatry, mental health professionals, and psychiatry as a career choice, treatment issues, and mental health institutions including teaching aspects in psychiatry. Each participant can give his or her opinion as one among five of the responses to the statements: "Strongly agree", "Agree", "No opinion/neutral", "Disagree", "Strongly disagree" (one, agree strongly; five, disagree strongly). The scale contains fifteen negatively phrased statements scored from one to five respectively and other fifteen positively phrased items which are being scored from five to one respectively. After adding up all the scores of the responses, we derive the total attitude score ranging from 30-150. A total mean score of 90 indicates a neutral attitude towards psychiatry. Higher than 90 score goes in favour of positive attitude but scores less than 90 implies negative attitude towards psychiatry. [10,11]

### Statistical analysis of the study

Data was collected and tabulated using Microsoft excel. Frequency and percentages were calculated for all quantitative measures. Mean and standard deviation (SD) were calculated for qualitative measures. Chi-square test was used to analyse categorical values. p-value of <0.05 considered as statistically significant. Analysis was done using SPSS version 11.

## Results

Total number of participants was 469 in which 78 were postgraduates and 391 were undergraduate students. Other socio-demographic details are as in Table 1. Total 80.8% (N=379) of the participants showed positive attitude towards psychiatry. 17.9% (N=84) had negative and 1.3% (N=6) had neutral attitude towards psychiatry. Mean score is 103.58 (SD=14.05). Among them, 88.1% of females and 72.9% of males showed positive attitude towards psychiatry and the difference implying more number of females have positive attitude, was significant ( $p < 0.001$ ) as depicted in Table 2. Mean score for female participants and male participants was 105.98 (SD=13.45) and 100.99 (SD=14.24) respectively. Minimum and maximum score for males was 70 and 140 respectively. Minimum and maximum score for females was 75 and 139 respectively. Mean age is 22.9 years (SD=2.254). Minimum age 19 years and maximum 29. Mean score of ATP for undergraduates and postgraduates was 103.87 (SD=14.09) and 102.12 (SD=13.82) respectively. Minimum and maximum score for undergraduates was 70 and 140 respectively. Minimum and maximum score for postgraduates was 76 and 125 respectively. More number of participants with residential background as district and town have shown positive attitude than those from village or being Non-Resident Indian (NRI) with  $\chi^2(6)=33.087$ ,  $p < 0.001$ . Total 12 (2.6%) students have disclosed that they were suffering from some psychiatric illness in which four had depression, two had anxiety, two had obsessive-compulsive disorder (OCD), and four had depression with comorbid social phobia, and eight (1.7%) participants reported of having family history of psychiatric illness. Having positive personal or family history of psychiatric illness did not influence on the attitude. We found that religion did not have effect on the attitude  $\chi^2(2)=4.390$ ,  $p=0.356$ .

## Discussion

Attitude is a hypothetical construct having affective, behavioural, and cognitive components. It represents a person's like or dislike for an item or idea leading to positive, negative, or neutral responses.[10] Many studies have been conducted in this area using different scales other than ATP-30. Some studies conducted in different parts of the world like in Spain, India, Iran, Canada, and Pakistan, have devised their own questionnaires. Even though there are mixed results in earlier studies regarding the attitude of medical students towards psychiatry, studies with outcome as negative attitude are more in number. Such negative attitudes are of serious concern not only to the patient care but also to the society's attitude to psychiatric disorders. Several studies have evidenced that there is a decline in the number of students who choose psychiatry as a career choice. The attitude of the medical students toward psychiatry, mental health, and mental illnesses is very important because they are going to be involved in the care of these patients either directly or indirectly in their future career.[12-15]

There are studies which explored family physicians' opinion towards mental health and identified two reasons

for non-referral: firstly, concerns about the usefulness of psychiatric treatment and secondly, stigmatisation for the patient.[16] Previous studies found healthcare providers rely on pharmacotherapy rather than the psychosocial interventions.[17]

In our study, it was positive attitude overall and large percentage of female population reported positive attitude. Our results are substantiated by previous studies done in different parts of India.[2,9,18] Overall, 34.1% of the students reported that they accept a person who has completely recovered from psychiatric illness as their life partner whereas 42% participants were neutral and still 23.9% people were not ready for accepting them as life partner. Nearly 40% of the people think that psychiatrists are better than others as life partners because they understand another person's mind well. Even 23.5% participants do not want to accept an individual with the family history of psychiatric illnesses. It is shocking to see that nearly 16.8%, i.e. means one sixth of the participants still believe that psychiatrists will turn insane after some years. Seventy per cent of the subjects did not agree with the statement that some individuals take up the psychiatry course as they themselves are deviant from norms.

We have seen lot of gender differences with respect to the attitude. More number of males than females think psychiatry is unappealing because it makes so little use of medical training and believe that psychiatrists talk a lot but do very little. More females than males accept the efficacy of psychotherapy as more percentages opine the practice of psychotherapy is fraudulent because of the absence of strong evidence of being effective. Majority of females still disagree that psychiatry is a respected branch of medicine and psychiatric illnesses deserve at least as much attention as physical illness. Equal number of males and females believe that psychiatry is unscientific flooded with vague speculations (Table 3, 4, 5). One speculated explanation might be that females are more likely to support psychosocial conceptualisations of psychiatric illnesses than males. Hence, females are in favour of psychotherapy.

While comparing undergraduates and postgraduates' responses, it was found that majority of postgraduates disagreed that their psychiatric undergraduate training was valuable and doubted the efficacy of psychotherapy (Table 6). 61.1% of undergraduates compared to 43% of postgraduates say that it is hard to think of psychiatrists as equal to other doctors. Possible reason could be that psychiatrists earn less than other medical professionals and they rarely indulge in life saving procedures of organic causes like myocardial infarction, stroke, etc.

**Table 1:** Socio-demographic details (N=469)

Variable	N (%)
Gender	
Male	225 (48)
Female	244 (52)
Religion	
Hindu	384 (81.9)
Muslim	61 (13)
Others	24 (5.1)
Year of MBBS	
Second	114 (24.4)
Third	104 (22.2)
Fourth	89 (18.9)
Interns	84 (17.9)
Postgraduates (PG)	78 (16.6)
Residential background	
Village	105 (22.4)
Taluk	117 (24.9)
District	233 (49.7)
Non-Residential Indian (NRI)	14 (3)

**Table 2:** Gender differences and comparison of undergraduates and postgraduates with respect to attitudes toward psychiatry-30 items (ATP-30) scores

	ATP-30 score			Chi-square value
	Positive (>90)	Neutral (=90)	Negative (<90)	
Male	164 (72.9%)	0 (0%)	61 (27.1%)	$\chi^2 (2)=29.33, p<0.001$
Female	215 (88.1%)	6 (2.5%)	23 (9.4%)	
Undergraduates	316 (80.8%)	6 (1.5%)	69 (17.6%)	$\chi^2 (2)=1.288, p=0.525$
Postgraduates	63 (80.8%)	0 (0%)	15 (19.2%)	

**Table 3:** Gender differences and comparison of undergraduates and postgraduates with respect to questions on Attitudes Toward Psychiatry-30 items (ATP-30) scale

S. No.	Questions	ATP-30 results (N=469)						p-value	Postgraduate N=78	p-value		
		Male N=225		Female N=244		Undergraduate N=391					Agree	Disagree
		Agree	Disagree	Agree	Disagree	Agree	Disagree					
1	Psychiatry is unappealing because it makes so little use of medical training.	56 (24.9)	113 (50.2)	34 (13.9)	164 (67.2)	75 (19.2)	232 (59.3)	15 (19.2)	45 (57.7)	0.94		
2	Psychiatrists talk a lot but do very little.	50 (22.2)	136 (60.4)	25 (10.2)	172 (70.5)	57 (14.6)	251 (64.2)	18 (23.1)	57 (73.1)	0.00		
3	Psychiatric hospitals are little more than prisons.	43 (19.1)	130 (57.8)	40 (16.4)	153 (62.7)	77 (19.7)	226 (57.8)	6 (7.7)	57 (73.1)	0.01		
4	I would like to be a psychiatrist.	56 (24.9)	103 (45.8)	44 (18)	131 (53.7)	143 (36.6)	141 (36.1)	18 (23.1)	39 (50)	0.03		
5	It is quite easy for me to accept the efficacy of psychotherapy.	27 (12)	149 (66.2)	12 (4.9)	209 (85.7)	156 (39.9)	84 (21.5)	27 (34.6)	33 (42.3)	0.00		
6	On the whole, people taking up psychiatric training are running away from participation in real medicine.	50 (22.2)	116 (51.6)	46 (18.9)	147 (60.2)	76 (19.4)	189 (48.3)	24 (30.8)	45 (57.7)	0.00		
7	Psychiatrists seem to talk nothing but sex.	91 (40.4)	52 (23.1)	101 (41.4)	67 (27.5)	30 (7.7)	304 (77.7)	9 (11.5)	54 (69.2)	0.25		
8	The practice of psychotherapy basically is fraudulent since there is no strong evidence that it is effective.	75 (33.3)	80 (35.6)	43 (17.6)	114 (46.7)	84 (21.5)	224 (57.3)	12 (15.4)	39 (50)	0.03		
9	Psychiatric teaching increases our understanding of medical and surgical patients.	47 (20.9)	143 (63.6)	49 (20.1)	164 (67.2)	248 (63.4)	73 (18.7)	33 (42.3)	27 (34.6)	0.00		
10	The majority of students report that their psychiatric undergraduate training has been valuable.	69 (30.7)	97 (43.1)	118 (48.4)	96 (39.3)	171 (43.7)	105 (26.9)	30 (38.5)	39 (50)	0.00		

**Table 4:** Gender differences and comparison of undergraduate and postgraduate with respect to questions on Attitudes Toward Psychiatry-30 items (ATP-30) scale

S. No.	Questions	ATP-30 results (N=469)						p-value	Postgraduate N=78	p-value		
		Male N=225		Female N=244		Undergraduate N=391					Agree	Disagree
		Agree	Disagree	Agree	Disagree	Agree	Disagree					
11	Psychiatry is respected branch of medicine.	69 (30.7)	112 (49.8)	44 (18)	163 (66.8)	278 (71.1)	51 (13)	54 (69.2)	12 (15.4)	0.85		
12	Psychiatric illness deserves at least as much attention as physical illness.	74 (32.9)	67 (29.8)	52 (21.3)	115 (47.1)	296 (75.7)	57 (14.6)	69 (88.5)	9 (11.5)	0.00		
13	Psychiatry has very little scientific information to go on.	63 (28)	84 (37.3)	61 (25)	80 (32.8)	122 (31.2)	142 (36.3)	24 (30.8)	27 (34.6)	0.92		
14	With the forms of therapy now at hand most psychiatric patients improve.	92 (40.9)	72 (32)	117 (48)	48 (19.7)	259 (66.2)	36 (9.2)	42 (53.8)	18 (23.1)	0.00		
15	Psychiatrists tend to be as stable as the average doctor.	64 (28.4)	85 (37.8)	82 (33.6)	84 (34.4)	218 (55.8)	70 (17.9)	39 (50)	18 (23.1)	0.51		
16	Psychiatric treatment causes patients to worry too much about their symptoms.	145 (64.4)	27 (12)	156 (63.9)	27 (11.1)	162 (41.4)	98 (25.1)	30 (38.5)	21 (26.9)	0.88		
17	Psychiatrists get less satisfaction from their work than other specialists.	130 (57.8)	39 (17.3)	127 (52)	49 (20.1)	100 (25.6)	158 (40.4)	18 (23.1)	36 (46.2)	0.64		

(Contd...)



Table 4: (Continued)

S. No.	Questions	ATP-30 results (N=469)								p-value	p-value
		Male N=225		Female N=244		Undergraduate N=391		Postgraduate N=78			
		Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree		
18	It is interesting to try to unravel the cause of a psychiatric illness.	71 (31.6)	96 (42.7)	90 (36.9)	84 (34.4)	207 (52.9)	90 (23)	63 (80.8)	6 (7.7)	0.00	
19	There is very little that psychiatrists can do for their patients.	81 (36)	56 (24.9)	102 (41.8)	61 (25)	75 (19.2)	256 (65.5)	21 (26.9)	51 (65.4)	0.10	
20	Psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill.	111 (49.3)	67 (29.8)	170 (69.7)	33 (13.5)	268 (68.5)	59 (15.1)	48 (61.5)	3 (3.8)	0.00	

Table 5: Gender differences and comparison of undergraduate and postgraduate with respect to questions on Attitudes Toward Psychiatry-30 items (ATP-30) scale

S. No.	Questions	ATP-30 results (N=469)								p-value	p-value
		Male N=225		Female N=244		Undergraduate N=391		Postgraduate N=78			
		Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree		
21	If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded.	90 (40)	84 (37.3)	111 (45.5)	60 (24.6)	148 (37.9)	166 (42.5)	39 (50)	27 (34.6)	0.13	
22	At times it is hard to think of psychiatrists as equal to other doctors.	147 (65.3)	37 (16.4)	185 (75.8)	26 (10.7)	89 (22.8)	239 (61.1)	24 (30.8)	36 (46.2)	0.04	
23	These days psychiatry is the most important of the curriculum in medical schools.	148 (65.8)	48 (21.3)	217 (88.9)	18 (7.4)	236 (60.4)	80 (20.5)	42 (53.8)	18 (23.1)	0.55	
24	Psychiatry is so unscientific that even psychiatrists cannot agree as to what its basic applied sciences are.	131 (58.2)	57 (25.3)	139 (57)	39 (16)	102 (26.1)	149 (38.1)	24 (30.8)	33 (42.3)	0.31	
25	In recent years psychiatric treatment has become quite effective.	139 (61.8)	41 (18.2)	177 (72.5)	21 (8.6)	262 (67)	53 (13.6)	63 (80.8)	9 (11.5)	0.02	
26	Most of the so-called facts in psychiatry are really just vague speculations.	121 (53.8)	57 (25.3)	157 (64.3)	41 (16.8)	97 (24.8)	134 (34.3)	27 (34.6)	30 (38.5)	0.10	
27	If we listen to them, psychiatric patients are just as human as other people.	143 (63.6)	36 (16)	182 (74.6)	26 (10.7)	254 (65)	78 (19.9)	33 (42.3)	15 (19.2)	0.00	
28	The practice of psychiatry allows the development of really rewarding relationships with people.	133 (59.1)	49 (21.8)	154 (63.1)	44 (18)	242 (61.9)	50 (12.8)	51 (65.4)	12 (15.4)	0.48	
29	Psychiatric patients are often more interesting to work with than other patients.	117 (52)	43 (19.1)	176 (72.1)	19 (7.8)	222 (56.8)	64 (16.4)	45 (57.7)	27 (34.6)	0.00	
30	Psychiatry is so amorphous that it cannot really be taught effectively.	123 (54.7)	48 (21.3)	144 (59)	43 (17.6)	176 (45)	102 (26.1)	33 (42.3)	18 (23.1)	0.59	

**Table 6:** Gender differences and comparison of undergraduates and postgraduates with respect to questions on proforma

Questions	Responses (N=469)				
	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
A. Would you accept a person who has completely recovered from psychiatric illness as life partner?	31 (6.6)	129 (27.5)	197 (42)	82 (17.5)	30 (6.4)
B. Would you accept a person with family history of psychiatric illness as your life partner?	43 (9.2)	154 (32.8)	162 (32.8)	82 (17.5)	28 (6)
C. Psychiatrists over the course of time would turn insane.	17 (3.6)	62 (13.2)	153 (32.6)	153 (32.6)	84 (17.9)
D. Psychiatrists take up the course because they themselves are deviant from norms.	8 (1.7)	35 (7.5)	95 (20.3)	202 (43.1)	129 (27.5)
E. Psychiatrists are better than others as life partners as they understand other person's mind well.	81 (17.3)	106 (22.6)	147 (31.3)	108 (23)	27 (5.8)

Many studies reported that internship training might influence a medical student's decision to choose a career in psychiatry in the future. Studies say that students have the belief that psychiatry is interesting but at the same time think psychiatry yields less income comparable to other branches of medicine and are worried what the society, family, and friends opine about their decision of joining psychiatry.[19] Studies have shown that medical education may have a positive impact on their opinion about psychiatry.[20]

Unfortunately, majority of the students in the colleges do not attend theory and practical classes in psychiatry during their undergraduate training and we have seen that there is negligence from medicine department as they are reluctant to post the interns to psychiatry as part of rotatory internship programme. The medical students in general have many misconceptions in their knowledge toward psychiatry, psychiatric disorders, psychiatric patients, and psychiatric treatment due to various reasons among which major factor might be psychiatry as a discipline being neglected at the undergraduate stage itself. We need to educate even the faculty in a medical college too. Dealing effectively with the increasing manpower problem requires encouragement and educating the medical undergraduates to either take up mental health as a profession, or to make them capable of treating common mental illness in general practice or within their specialties. The approach towards psychiatry and approach to psychiatric illness among MBBS students are key factors in determining the choice of psychiatry as a profession and keenness to deal with psychiatric disorders in general practice. Though, medical students' approach towards psychiatry and to psychiatric illness may pre-date their joining medical college and could then be influenced positively or negatively by factors outside of their psychiatry clinical attachments throughout their clinical postings. Our study addressed the attitudes of medical students at different phases of under-graduation training to assess whether exposure to psychiatry in general influenced their attitude and their interest in psychiatry as a career choice.

### Limitations

We did not exclude any individual with personal or family history of mental illness as such individuals are likely to have

some knowledge and experience pertaining to psychiatry and might have contributed for bias. We did not use any scale to rule out individuals who might have had psychological distress resulting in difficulty in getting response from them. Even though we had enough sample size, the current study was limited to only one medical college. Hence it will difficult to generalise our results to other areas. This can be corrected if multicentre studies are to be done to assess the impact of present curriculum of psychiatry across different colleges. Moreover, we should have interventional study rather than cross-sectional like ours.

### Conclusion

Our study depicted a good attitude to psychiatry. We can say the stigma toward psychiatry is declining at least among medical professionals, and more students are interested in taking up psychiatry as their career compared to earlier years. We are of the opinion that increase in the psychiatry classes during undergraduate training will have impact on the students' attitude towards psychiatry.

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### References

1. Rajagopalan M, Kuruvilla K. Medical students' attitudes towards psychiatry: effect of a two week posting. *Indian J Psychiatry*. 1994;36:177-82.
2. Tharyan P, John T, Tharyan A, Braganza D. Attitudes of 'tomorrow's doctors' towards psychiatry and mental illness. *Natl Med J India*. 2001;14:355-9.
3. Wolff G, Pathare S, Craig T, Leff J. Community attitudes to mental illness. *Br J Psychiatry*. 1996;168:183-90.
4. Corrigan PW, Green A, Lundin R, Kubiak MA, Penn DL. Familiarity with and social distance from people who have serious mental illness. *Psychiatr Serv*. 2001;52:953-8.
5. Ndeti DM, Khasakhala L, Ongecha-Owuor F, Kuria M, Mutiso V, Syanda J, *et al.* Attitudes toward psychiatry: a survey of medical students at the University of Nairobi, Kenya. *Acad Psychiatry*. 2008;32:154-9.

6. Aggarwal R, Guanci N, Caracci G, Concepcion E. Medical students and psychiatry: an attitude change? *Med Educ Online*. 2013;18:20676.
7. Bathla M, Chandna S, Mehta DS, Grover HS. Dentistry and psychiatry: It's time to bridge the gap. *Delhi Psychiatry Journal*. 2015;18:20-4.
8. Poreddi V, Thimmaiah R, Pashupu DR, Ramachandra, Badamath S. Undergraduate nursing students' attitudes towards mental illness: implications for specific academic education. *Indian J Psychol Med*. 2014;36:368-72.
9. Mohammed AA, Vinila C, Alam A, Arthur M, Bandla S, Sultana Z, *et al.* Attitude towards mental health among postgraduate students and house surgeons in a tertiary teaching hospital at Kancheepuram: a questionnaire based study. *AP J Psychol Med*. 2013;14:33-6.
10. Burra P, Kalin R, Leichner P, Waldron JJ, Handforth JR, Jarrett FJ, *et al.* The ATP 30-a scale for measuring medical students' attitudes to psychiatry. *Med Educ*. 1982;16:31-8.
11. Bhise MC, Marwale AV, Deshmukh AS, Saoji SG. Impact of differences in psychiatry curriculum of undergraduate medical and physiotherapy students on their attitude towards psychiatry. *Indian J Psychiatry*. 2016;58:208-11.
12. Balon R, Franchini GR, Freeman PS, Hassenfeld IN, Keshavan MS, Yoder E. Medical students' attitudes and views of psychiatry: 15 years later. *Acad Psychiatry*. 1999;23:30-6.
13. Calvert SH, Sharpe M, Power M, Lawrie SM. Does undergraduate education have an effect on Edinburgh medical students' attitudes to psychiatry and psychiatric patients? *J Nerv Ment Dis*. 1999;187:757-61.
14. Malhi GS, Parker GB, Parker K, Carr VJ, Kirkby KC, Yellowlees P, *et al.* Attitudes toward psychiatry among students entering medical school. *Acta Psychiatr Scand*. 2003;107:424-9.
15. Feifel D, Moutier CY, Swerdlow NR. Attitudes toward psychiatry as a prospective career among students entering medical school. *Am J Psychiatry*. 1999;156:1397-402.
16. Sartorius N, Gaebel W, Cleveland HR, Stuart H, Akiyama T, Arboleda-Flórez J, *et al.* WPA guidance on how to combat stigmatization of psychiatry and psychiatrists. *World Psychiatry*. 2010;9:131-44.
17. Kumar A, Goyal U, Ganesh KS, Srivastava MK, Gautam BD, Kumar R. Attitude of postgraduate residents towards psychiatry. *Indian J Psychiatry* 2001;43:2.
18. Prasad KN, Sajeev Kumar PB, Narayanankutty OK, Abraham A, Raj Z, Madanagopal V, *et al.* "Why not psychiatry??" Interns of a medical college in Northern Kerala responds. *Indian J Psychiatry*. 2016;58:204-7.
19. Nielsen AC 3rd, Eaton JS Jr. Medical students' attitudes about psychiatry. Implications for psychiatric recruitment. *Arch Gen Psychiatry*. 1981;38:1144-54.
20. Corrigan PW, River LP, Lundin RK, Penn DL, Uphoff-Wasowski K, Campion J, *et al.* Three strategies for changing attributions about severe mental illness. *Schizophr Bull*. 2001;27:187-95.

Mutalik NR, TP Tejaswi, Kashinakunti M, Choudhari SB. Attitude of medical undergraduate and postgraduate students towards psychiatry: a cross-sectional study. *Open J Psychiatry Allied Sci*. 2017 Jun 17. [Epub ahead of print]

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