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## Attitude toward Mental Illness and Psychiatry among the Medical Students and Interns in a Medical College

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### ABSTRACT

**Introduction:** Medical students tend to have a neutral or negative attitude to Psychiatry as a discipline. This study was initiated to explore the attitude towards mental illness and Psychiatry among the medical students and interns in Kathmandu University School of Medical Sciences.

**Methods:** A cross-sectional questionnaire based study was conducted among the medical students and interns at Dhulikhel Hospital. Two self-rating scales; Attitudes towards Psychiatry-30 and Attitudes to Mental Illness were used to assess attitudes towards mental illness and Psychiatry among the total 159 subjects. Descriptive statistics and independent sample t-test were applied using SPSS-16 for analysis.

**Results:** Among the total 159 subjects, 44 (27.7%) were interns. Comparison of means of each item in Attitudes towards Psychiatry-30 and Attitudes to Mental Illness was done between males and females, medical students and interns, first semester and ninth semester students. Most of the subjects showed neutral attitude towards all the scoring items; though there were a few significant differences in mean scores of some items in group wise comparison.

**Conclusions:** Overall attitudes towards mental illness and psychiatry among the medical students and interns in our medical school were positive or neutral. A further study with medical students from different institutions is needed to get a detail nationwide picture.

**Keywords:** attitude; interns; medical students; mental illness; psychiatry.

### INTRODUCTION

Mental health is an ignored subject in the field of medicine and public health all over the world.<sup>1-3</sup> Medical students have neutral or negative attitude towards Psychiatry as a discipline and career choice.<sup>4-7</sup> Possible factors may be demographic or socio-cultural; influencing students before their entrance into medical school or during their medical school years.<sup>8-11</sup> Undergraduate educational programs are found unresponsive for psychiatric teaching in most institutions.<sup>12,13</sup>

Increasing manpower demand in Psychiatry is however not keeping pace with supply.<sup>1,5,14-17</sup> There are several studies showing significant positive changes in students' attitude after their psychiatric training,<sup>18-31</sup> making doctors more responsive to the psychological dimension of physical illness.<sup>25,32-36</sup>

Keeping these paradoxical issues in mind, we intended to conduct a study aiming to assess and compare the

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differences in attitude towards mental illnesses and Psychiatry among the medical students in different semesters and the interns undergoing compulsory rotatory internship.

## METHODS

This descriptive cross-sectional questionnaire based study was conducted at Kathmandu University School of Medical Sciences (KUSMS) after getting approval from its Institutional Review Committee (IRC) in April 2011.

Study population included the medical students studying in KUSMS and the interns undergoing compulsory rotatory internship at Dhulikhel Hospital, Kathmandu University Hospital. The medical students were taken from three semesters; First semester (those entering the medical school), Sixth semester (those who completed their pre-clinical and just entering clinics) and Ninth semester (those who completed their Psychiatry course and appearing for Final University Exams), forming the three comparison groups. Interns were those who had cleared final MBBS and working in the different departments of the hospital.

Subjects were explained about the aims and objectives of the study being conducted in detail. Informed consent was taken after ensuring confidentiality of the information gathered in the questionnaires being used and clarifying that it would only be used for the purpose of the research intended.

Two self-rating scales were used in the study; Attitudes towards Psychiatry (ATP-30)<sup>37</sup> and Attitudes to Mental Illness (AMI).<sup>23</sup>

ATP-30 is a 30-item, Likerttype scale looking at attitudes related to Psychiatry. Respondents express their agreement or disagreement to 30 items in terms of a five point scale: Strongly agree, Agree, Neutral, Disagree, and Strongly disagree. Response for 15 items meant to measure negative attitudes are scored as 1 to 5, whereas, items measuring positive attitudes are scored from 5 to 1 respectively. Total score on the scale indicates positive or negative attitude, with high total score indicating positive and a low score indicating negative attitudes towards different aspects of Psychiatry.

Similarly, AMI is a 20-item questionnaire which focuses on attitudes towards the causes, treatment and consequences of mental illness and its impact on individuals and society. It also has the items constructed on a five-point Likert scale with a higher

score suggesting a more favorable attitude. The scoring on some of the items is reversed to avoid response bias.

SPSS Version 16 was used for data entry and statistical analysis. Descriptive statistics was used to analyze socio-demographic factors while independent sample t-test was applied for comparison of mean scores obtained by the subject group on each item, and to know the statistical significance of the differences.

## RESULTS

The sample consisted of 159 subjects of which 90 (56.6%) were males and 69 (43.4%) were females showing male dominance. Group-wise distribution showed 43 (27%) of the respondents in First semester, 28 (17.6%) in Sixth semester, 44 (27.7%) in Final semester and 44 (27.7%) interns. We also tried to document the presence of family history of mental illnesses in the subjects but 41 (almost 26%) of the respondents did not enter it while 100 (around 68%) reported absence of such family history. Hence we did not analyze the significance of this finding (Table 1).

**Table 1. Demographic profile of the subjects participating in the Study.**

S.N.	Demographic factors	Frequency (%) (N = 159)
1.	Sex	Male 90 (56.6%)
		Female 69 (43.4%)
2.	Year of study	First semester 43 (27%)
		Sixth semester 28 (17.6%)
		Final semester 44 (27.7%)
		Interns 44 (27.7%)
3.	Family History of Psychiatric Illnesses	Present 10 (6.3%)
		Absent 108 (67.9%)
		Not entered 41 (25.8%)

All of the subjects (N=159) completed the ATP-30 questionnaire while 34 AMI questionnaires were either incomplete or totally blank. Hence, only 125 AMI questionnaires were considered for analysis.

Group-wise comparison of the mean scores of each item in AMI questionnaire was done; comparison was made between males and females, medical students (as a whole group) and interns, as well as that between

first semester and ninth semester medical students (Table 2). Similar comparison was done among the mean scores of each item in ATP-30 questionnaire (Table 3).

Most of the responses in AMI and ATP-30 were either positive or neutral among both the male and female groups. Some of the responses were significantly more positively stated by the males in comparison to the females ( $P < 0.05$ ); most of the males strongly disagreed the opinion of banning ECT, and the statements "Psychiatric patients generally speaking are difficult to like" and "Alcohol abusers have no self-control" (Table 2). Significantly ( $P < 0.05$ ), most females accepted the opinion that psychiatric treatment has become quite effective in recent years (Table 3).

Similarly, comparing the means of the responses in each AMI and ATP-30 items among medical students and interns also showed that the responses to almost all the items were either positive or neutral among both the groups. Significantly ( $P < 0.05$ ), most of the interns denied the statement that mental illness was the result of adverse social circumstances, while medical students disagreed that care in the community for the mentally ill would put society at risk (Table 2). Significantly, more medical students considered Psychiatry to be an appealing field ( $P < 0.001$ ); they agreed to the statement that psychiatric patients were more interesting to work with and to discover the cause of their illnesses ( $P < 0.05$ ). Most of the medical students wanted to be a psychiatrist and disagreed the statement that psychiatric treatment would cause patients to worry too much about their symptoms ( $P < 0.05$ ) (Table 3).

Comparison among the groups of first semester and ninth semester students revealed that most of the AMI and ATP-30 items were given a positive response. Significantly, the first semester students denied the opinion that mentally ill should not be given any responsible jobs and should be left independently ( $P < 0.05$ ); and mental illnesses were genetic in origin ( $P < 0.001$ ) (Table 2). Significantly ( $P < 0.01$ ), most of the ninth semester students disagreed the statements that psychiatric hospitals were like prisons and psychiatrists were not equal to the doctors (Table 3).

## DISCUSSION

Attitude is a hypothetical construct that represents an individual's like or dislike for an item; which may be positive, negative or neutral. It originates from judgments and has affective, behavioral and cognitive components.<sup>37</sup> It also determines orientation towards a particular environment.<sup>5</sup> So, orientation of the medical students towards management of psychological

problem in physically ill patients during medical training shapes their attitude towards mental illnesses as a disease and Psychiatry as a medical subspecialty and determines the trend to choose Psychiatry as a career by future doctors.<sup>23,26,30,34</sup>

Lots of studies have been conducted to assess the attitude of medical students towards mental illness and Psychiatry using different scales. Some studies devised their own questionnaires, like those conducted in Spain, India, Iran, Canada and Pakistan.<sup>26,28,29,34,37,38</sup> One study conducted in a Medical college at Eastern part of Nepal also developed a 20-item semi-structured questionnaire to assess the impact of a two-week training program on the awareness of medical students about Psychiatry.<sup>36</sup> In a Greek Study, The Libertarian Mental Health Ideology Scale (LMHIS) was used to assess attitudes which measured the aspects of two competing conceptual frameworks in Psychiatry, the medical model and the radical psychosocial or "Szaszian-libertarian" position.<sup>8,39</sup>

ATP-30 was used in studies done at Pakistan and United Kingdom.<sup>5,35,37</sup> Two studies, one conducted at United Kingdom and the other at Malaysia, used both ATP-30 and AMI as done in our study.<sup>23,30,37</sup> These scales tend to assess attitudes related to Psychiatry looking upon the following four aspects: Psychiatric patients and psychiatric illness, Psychiatrist and subject of Psychiatry, Psychiatric knowledge and teaching and Psychiatric treatment and hospitals.<sup>5</sup>

We intended to assess the attitude towards mental illness and Psychiatry among medical students and interns in a University Teaching Hospital using two well-known scales keeping in facts from earlier studies done at various centers all over the world.<sup>23,37</sup> We came across only one Nepali study which was conducted more than a decade ago.<sup>36</sup> Hence, we tried to explore this issue repeatedly studied in most parts of the world in our own hospital setting.

It was a cross-sectional questionnaire based study, intending only a group-wise comparison among the students of the first and final semester, medical students and interns and sex-wise comparison among the males and females in contrast to some of the studies which compared the attitudes among the students before and after teaching or training sessions.<sup>26,30,36</sup> A study in UK made a comparison between old and new curricula;<sup>23</sup> while a Greek study compared two groups of students belonging to different batches;<sup>8</sup> and a Pakistan study compared the students of public and private medical institutes.<sup>38</sup>

We did not translate the scales which we had obtained in English version considering the fact that the medium of instruction among our medical students was English, similar was the case in a Pakistan study which also used the English version of ATP-30.<sup>5,37</sup>

On cross-sectional analysis, we found that our medical students and interns had a neutral or positive attitude towards most of the aspects of mental illness and Psychiatry keeping with the findings from some recent studies done at Pakistan, Malaysia and United Kingdom,<sup>5,23,30,35</sup> and in contrast to an earlier study done at Australia and India.<sup>6,7</sup> A WHO study also reported negative attitude towards mental illnesses among the medical students.<sup>3</sup> Only a few items in both the scales showed significantly more positive views on different group and sex-wise comparison as described above.

We also intended to quantify the choices of specialty made by the study participants for their future career but 96 (more than 60%) of them were found to be undecided regarding the same. Indecision was found even among the ninth semester students and the interns. Similar findings were seen in an Iran study which highlighted the career indecision to be an important concern for practitioners, researchers, and educators all over the world.<sup>34</sup>

Similarly, our attempt to analyze whether family history of mental illnesses has any significant effect on the medical students' attitude towards Psychiatry, as documented in a Pakistan study, was not successful as almost a quarter of them did not enter anything in the option, while more than two-thirds denied presence of any family history illustrating the worldwide stigma against Psychiatry.<sup>1-3,38</sup>

Our study was not without any limitations. Sample size was small despite prior explanation regarding the study to all the medical students and interns in our institute. Even the participants who consented for the study did

not respond completely, left some items on AMI and demographic details blank. Furthermore, as we took the participants from only one institute that too only from the first, sixth and ninth semester, generalization of the results is difficult. Cross-sectional nature of the study and absence of any control groups might not have served our purpose of assessing the attitude and ascertaining the importance of undergraduate education in Psychiatry. Some observed differences on group-wise and sex-wise comparison may be attributed solely to the cohort effect. Similarly, as we used the same English version of the two scales without translation or adaptation to our study population, some statistical biases cannot be ruled out.

Further studies are needed to assess the attitude of Nepali medical students towards mental illness and Psychiatry with large population of medical students, interns and medical officers from different medical colleges using scales well adapted to our own population. Results from a study comparing the attitude towards Psychiatry before and after a formal training in Psychiatry would have visualized the importance of Psychiatry among the undergraduate medical students.

However, the results obtained so far in this study has shown clearly that our medical students held almost positive attitude towards various aspects of mental illness as a disease and Psychiatry as a medical subspecialty which would definitely improve if we could make some improvements in the existing curriculum on teaching learning activities in Psychiatry.

## CONCLUSIONS

Overall attitudes towards mental illness and Psychiatry among the medical students and interns in our Medical School were positive or neutral. A further study with medical students from different institutional background is needed to get a detail nationwide picture that can be implemented in future academic and professional practice.

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**Table 2. Comparison of the means of scores on items measuring attitude towards mental illnesses (AMI).**

AMI Items	Total sample (N = 125)	Genderwise comparison		Comparison among Medical students and interns		Comparison among first and ninth semester students				
		Female (n = 53)	Male (n = 72)	t-test	Medical Students (n = 89)	Interns (n = 36)	t-test	Fist Semester (n = 31)	Ninth Semester (n = 30)	t-test
1. Psychiatric patients generally speaking are difficult to like	2.71(±.1.03)	2.49 (±1.03)	2.88 (±1.02)	0.04*	2.71(±1.03)	2.72(±1.05)	0.945	2.74(±0.893)	2.77(±1.17)	0.904
2.The mentally ill should be discouraged from marrying	2.79(±1.21)	2.68(±1.16)	2.87 (±1.25)	0.375	2.83(±1.24)	2.69(±1.14)	0.570	2.84 (±1.34)	3.0(±1.26)	0.628
3.Violence mostly results from mental illness	2.68(±1.10)	2.62 (±1.15)	2.72 (±1.07)	0.62	2.69(±1.15)	2.67(±0.98)	0.932	2.58 (±1.05)	2.65 (±1.30)	0.831
4.Those with a psychiatric history should never be given a job with responsibility	3.14(±1.16)	2.94 (±1.23)	3.29 (±1.09)	0.098	3.21(±1.21)	2.97(±1.02)	0.295	3.61(±1.08)	2.84 (±1.26)	0.012*
5.Psychiatric diagnoses stigmatize people and should not be used	3.14(±1.16)	3.23 (±1.21)	3.07 (±1.17)	0.473	3.22(±1.18)	2.94(±1.19)	0.251	3.48 (±1.09)	3.13 (±1.30)	0.259
6.Mental illnesses are wrongly diagnosed in women and ethnic minorities	2.68(±1.06)	2.53(±1.33)	2.79(±1.07)	0.171	2.66(±1.07)	2.72(±1.03)	0.778	2.94(±0.89)	2.52 (±1.20)	0.125
7.Those who attempt suicide leaving them with serious liver damage should not be given transplants	3.18(±1.19)	3.19(±1.33)	3.17(±1.08)	0.928	3.22(±1.24)	3.08(±1.05)	0.575	3.43 (±1.27)	3.19 (±1.25)	0.462

8. Psychiatric drugs are mostly used to control disruptive behavior	2.57(±0.97)	2.57(±0.97)	2.57(±0.97)	0.976	2.47(±0.97)	2.83(±0.92)	0.060	2.37 (±0.99)	2.39(± 1.08)	0.939
9. ECT (Electroconvulsive Therapy) should be banned	3.14(±1.02)	2.91(±0.96)	3.31(±1.03)	0.029*	3.07(±1.02)	3.31(±1.00)	0.242	3.33(± 0.99)	2.87 (±1.14)	0.098
10. People who take an overdose are in need of compassionate treatment	3.58(±0.92)	3.47(±0.97)	3.66(±0.88)	0.272	3.62(±0.95)	3.47(±0.84)	0.419	3.83 (±0.95)	3.47 (±0.97)	0.145
11. Psychiatric drugs do more harm than good	3.07(±0.96)	3.23(±0.97)	2.06(±0.95)	0.127	3.06(±1.01)	3.11(±0.85)	0.781	3.07 (±0.90)	3.43 (±1.16)	0.179
12. Depression occurs in people with a weak personality	2.73(±1.24)	2.75(±1.34)	2.71(±1.18)	0.86	2.75(±1.33)	2.69(±1.03)	0.832	2.63 (±1.37)	2.73 (±1.36)	0.778
13. Mental illness is the result of adverse social circumstances	2.27(±0.92)	2.23(±0.94)	2.30(±0.92)	0.68	2.14(±0.89)	2.58(±0.93)	0.015*	2.21(± 0.94)	2.10 (±1.02)	0.679
14. Alcohol abusers have no self-control	2.53(±1.13)	2.28(±1.08)	2.71(±1.14)	0.036*	2.57(±1.22)	2.42(±0.87)	0.484	2.83(± 1.26)	2.50 (±1.38)	0.334
15. Mental illnesses are genetic in origin	3.00(±1.09)	2.92(±1.12)	3.06(±1.07)	0.508	3.10(±1.16)	2.75(±0.87)	0.103	3.50 (±1.19)	2.40 (±1.03)	0.00***
16. People who had good parenting as children rarely suffer from mental illness	2.41(±1.10)	2.34(±1.15)	2.46(±1.05)	0.560	2.34(±1.12)	2.56(±1.02)	0.336	2.10(± 0.99)	2.70 (±1.44)	0.066
17. Care in the community for the mentally ill puts society at risk	3.55(±1.26)	3.53(±1.28)	3.57(±1.25)	0.852	3.74(±1.29)	3.11(±1.06)	0.012*	3.80(± 1.44)	3.43 (±1.43)	0.328
18. It is preferable that the mentally ill live independently rather than in hospital	3.13(±1.14)	3.26(±1.16)	3.03(±1.12)	0.260	3.25(±1.18)	2.83(±1.00)	0.064	3.63 (±0.99)	2.93(± 1.46)	0.034**
19. Not enough is being done for the care of the mentally ill	3.63(±1.11)	3.68(±1.18)	3.60(±1.05)	0.697	3.75(±1.16)	3.36(±0.93)	0.079	3.53(± 1.27)	4.03 (±1.09)	0.110
20. Patients with chronic schizophrenia are incapable of looking after themselves	2.50(±1.10)	2.42(±1.13)	2.56(±1.08)	0.482	2.49(±1.16)	2.50(±0.97)	0.979	2.43(± 1.19)	2.23(± 1.16)	0.514

\*p&lt;0.05, †p&lt;0.01, ‡p&lt;0.001



**Table 3. Comparison of the means of scores on items measuring attitude towards psychiatry (ATP).**

ATP Items	Total sample (N=159)	Genderwise comparison		Comparison among Medical students and interns		Comparison among first and ninth semester students	
		Female (n=69)	Male (n=90)	t-test	Medical Students (n=115)	Interns (n=44)	t-test
1. Psychiatry is unappealing (not interesting to me) because it makes so little use of medical training	3.51(±1.30)	3.74(±1.17)	3.33(±1.38)	0.052	3.76(±1.19)	2.86(±1.37)	0.000***
2. Psychiatrists talk a lot but do very little	3.09(±1.30)	3.12(±1.03)	3.07(±1.18)	0.785	3.17(±1.06)	2.89(±1.06)	0.161
3. Psychiatric hospitals are little more than (not very different from) prisons	3.09(±1.12)	2.91(±1.15)	3.22(±1.09)	0.085	3.12(±1.17)	3.00(±1.01)	0.551
4. I would like to be a psychiatrist	2.52(±1.15)	2.41(±1.06)	2.61(±1.22)	0.269	3.12(±1.17)	2.20(±1.09)	0.032*
5. It is quite easy for me to accept the efficacy (effectiveness) of psychotherapy	3.16(±1.07)	3.07(±1.07)	3.22(±1.07)	0.386	3.23(±1.08)	2.95(±1.03)	0.142
6. On the whole, people taking up psychiatric training are running away from participation in real medicine	3.36(±1.04)	3.32(±1.05)	3.39(±1.03)	0.698	3.36(±1.04)	3.36(±1.04)	0.983
7. Psychiatrists seem to talk nothing but sex	3.75(±1.15)	3.84(±1.05)	3.68(±1.23)	0.381	3.71(±1.19)	3.84(±1.07)	0.535
8. The practice of psychotherapy basically is fraudulent (guilty of fraud) since there is no strong evidence that it is effective	3.42(±1.10)	3.49(±0.90)	3.37(±1.24)	0.477	3.41(±1.13)	3.45(±1.04)	0.816
9. Psychiatric teaching increases our understanding of medical and surgical patients	3.51(±1.23)	3.48(±1.13)	3.53(±1.30)	0.781	3.59(±1.25)	3.30(±1.15)	0.176
10. The majority of students report that their psychiatric undergraduate training has been valuable	3.13(±1.14)	3.16(±0.98)	3.10(±1.26)	0.757	3.22(±1.11)	2.89(±1.18)	0.099
					First Semester (n=43)	Ninth Semester (n=44)	t-test
					3.74(±1.32)	4.05(±1.05)	0.244
					3.16(±1.19)	3.43(±1.04)	0.266
					2.81(±1.18)	3.52(±1.11)	0.005**
					2.70(±1.18)	2.50(±1.15)	0.432
					3.47(±1.03)	3.07(±1.10)	0.088
					3.23(±0.99)	3.37(±1.15)	0.550
					3.63(±1.23)	4(±1.14)	0.148
					3.30(±1.18)	3.48(±1.24)	0.505
					3.58(±1.38)	3.75(±1.16)	0.830
					3.36(±1.05)	3.30(±1.28)	0.920

11. Psychiatry is a respected branch of medicine	3.82(±1.10)	3.87(±0.93)	3.78(±1.21)	0.604	3.87(±1.12)	3.68(±1.02)	0.338	3.93	1.07)	3.95(± 1.18)	0.448
12. Psychiatric illness deserves at least as much attention as physical illness	3.91(±1.29)	4.09(±1.12)	3.77(±1.40)	0.123	4.00(±1.36)	3.66(±1.07)	0.138	3.74	(±1.46)	3.98(± 1.38)	0.438
13. Psychiatry has very little scientific information to go on (is not based on much scientific evidence)	3.00(±1.11)	3.04(±1.04)	2.97(±1.16)	0.667	3.03(±1.11)	2.91(±1.10)	0.522	3.07	(±0.98)	3.25(± 1.16)	0.383
14. With the forms of therapy now (available) at hand, most psychiatric patient improve	3.41(±1.00)	3.42(±0.99)	3.41(±1.02)	0.945	3.49(±1.02)	3.21(±0.95)	0.133	3.56	(±0.88)	3.36(± 1.16)	0.088
15. Psychiatrists tend to be at least as stable as the average doctor	3.18(±1.11)	3.28(±1.02)	3.11(±1.17)	0.362	3.13(±1.09)	3.33(±1.14)	0.327	2.95	(±1.02)	3.36(± 1.18)	0.901
16. Psychiatric treatment causes patients to worry too much about their symptoms	2.48(±1.08)	2.48(±1.06)	2.48(±1.09)	0.978	2.37(±1.07)	2.79(±1.05)	0.027*	2.26(±	0.92)	2.23(± 1.17)	0.340
17. Psychiatrists get less satisfaction from their work than other specialists	2.80(±1.15)	2.96(±1.04)	2.68(±1.21)	0.131	2.81(±1.16)	2.77(±1.13)	0.861	2.70	(±0.88)	2.93(± 1.33)	0.088
18. It is interesting to try to unravel (discover) the cause of a psychiatric illness	4.05(±1.05)	4.16(±0.96)	3.97(±1.11)	0.253	4.16(±1.05)	3.77(±0.99)	0.038*	4.19	(±1.02)	4.11(± 1.22)	0.766
19. There is very little that psychiatrists can do for their patients	3.38(±1.17)	3.49(±1.09)	3.30(±1.23)	0.306	3.46(±1.18)	3.18(±1.12)	0.181	3.26	(±1.25)	3.70(± 1.17)	0.088
20. Psychiatric hospitals have a specific contribution to make to (can help specifically in) the treatment of the mentally ill.	3.78(±1.09)	3.70(±1.16)	3.85(±1.04)	0.370	3.82(±1.13)	3.70(±0.98)	0.543	3.98(±	0.96)	3.66(± 1.32)	0.206
21. If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded	2.91(±1.36)	3.12(±1.26)	2.74(±1.41)	0.087	3.02(±1.35)	2.60(±1.34)	0.090	2.95	(±1.44)	3.02 (±1.32)	0.816
22. At times it is hard to think of psychiatrists as equal to other doctors	3.13(±1.17)	3.10(±1.23)	3.15(±1.23)	0.813	3.16(±1.20)	3.05(±1.09)	0.601	2.91	(±1.10)	3.59 (±1.20)	0.007†
23. These days, psychiatry is the most important part of the curriculum in medical schools	3.27(±1.04)	3.16(±0.94)	3.35(±1.10)	0.260	3.36(±1.06)	3.02(±0.93)	0.074	3.53	(±0.93)	3.14(± 1.15)	0.081

24. Psychiatry is so unscientific that even psychiatrists can't agree as to what its basic applied sciences are	3.10(±1.11)	3.14(±1.00)	3.07(±1.19)	0.665	3.17(±1.13)	2.93(±1.03)	0.239	3.23(±1.13)	3.27(±1.24)	0.875
25. In recent years psychiatric treatment has become quite effective	3.73(±1.03)	3.93(±0.97)	3.57(±1.05)	0.030*	3.78(±1.02)	3.57(±1.06)	0.259	3.77(±0.99)	3.73(±1.14)	0.862
26. Most of the so-called facts in psychiatry is really just vague speculations	2.92(±1.05)	2.75(±0.96)	3.04(±1.10)	0.084	2.91(±1.06)	2.93(±1.03)	0.928	3.16(±0.97)	2.91(±1.09)	0.257
27. If we listen to them, psychiatric patients are just as human as other people	3.86(±1.09)	3.99(±0.97)	3.76(±1.17)	0.198	3.96(±1.10)	3.60(±1.03)	0.067	4.10(±0.98)	3.73(±1.28)	0.140
28. The practice of psychiatry allows the development of really rewarding relationships with people	3.64(±1.11)	3.62(±1.07)	3.65(±1.14)	0.891	3.72(±1.12)	3.40(±1.03)	0.114	3.72(±1.05)	3.61(±1.31)	0.676
29. Psychiatric patients are often more interesting to work with than other patients	3.18(±1.18)	3.23(±1.17)	3.13(±1.18)	0.610	3.30(±1.21)	2.86(±1.03)	0.039*	3.16(±1.27)	3.32(±1.21)	0.562
30. Psychiatry is so amorphous (vague) that it cannot really be taught effectively	2.57(±1.11)	2.38(±1.05)	2.72(±1.13)	0.060	2.54(±1.14)	2.67(±1.01)	0.485	2.49(±1.03)	2.61(±1.24)	0.611

\*p < 0.05, †p < 0.01, ‡p < 0.001