

# The Effect of Psychiatric Clerkship on Fifth Year Medical Students' Attitudes Toward Psychiatry and Their Intention to Pursue Psychiatry as a Career

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**Objective:** The purpose of this study was to examine whether attitudes toward psychiatry improved during psychiatric attachment as well as the relationship between attitudes to psychiatry and intention to pursue psychiatry as a career. It also assessed the relationship between students' characteristics with their attitudes toward psychiatry and intention to pursue psychiatry as a career before and after psychiatric attachment.

**Method:** On the first and last day of their psychiatric attachment 109 fifth year medical students of Shaheed Beheshti Medical University who entered medical school in September 2000 were asked to participate in the study. They completed a demographic form and "Attitude toward Psychiatry Questionnaire". They also responded to two questions which measured their intention to pursue psychiatry as a prospective career.

**Results:** Students had favorable attitude toward psychiatry before the attachment, with mean score of 84.14 on Attitude to Psychiatry Questionnaire (neutral score 72). These attitudes become more positive after attachment. Students' intention to pursue psychiatry as a career increased during attachment. There was also a significant increase in students' intention to pursue psychiatry as a career during attachment. Improvement in attitudes was related to an increased intention to pursue psychiatry as a career.

**Conclusion:** The study confirms earlier reports of a significant positive impact of undergraduate psychiatric attachment on medical students' attitudes toward psychiatry and their intention to pursue psychiatry. Thus, teaching psychiatry at an undergraduate level may well have important implications, not only in terms of the way future doctors who are not psychiatrists respond to patients psychological difficulties, but also in terms of future recruitment into the specialty.

**Keywords:**

*Attitudes, Career choice, Clinical clerkship, Education, Medical students, Psychiatry*

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A positive attitude to psychiatry may make future doctors more responsive to the psychological needs and comorbidity of patients in all branches of medicine (1). Large numbers of emotionally disturbed patients present themselves to nonpsychiatric physicians (2), and much of narrowly defined somatic medicine is psychologically influenced (3).

Several previous studies have found that medical students undertaking psychiatric clerkship do develop more positive attitudes toward psychiatry (3,4-9) although some studies have found no measurable change (10-12).

It has been shown that positive attitudes toward psychiatry are clearly associated with an interest in the specialty as a career (1, 7-9). Previous studies demonstrated that along with the improvement in attitude, there was an increase in the number of students planning to specialize to enter psychiatry (11, 13, 14) and eventual choice of psychiatry as a career (15). Studies have shown that subsets of medical students demonstrated more positive attitudes and career preference for psychiatry. Female medical students have been found to have more positive attitude toward

psychiatry (9, 16) and to be more likely to wish for a career in psychiatry than their male colleagues (17).

The aim of this study was to assess change in the attitudes of fifth year medical students of Shaheed Beheshti Medical University (SBMU) during their psychiatric clerkship. The Shaheed Beheshti Medical University is fairly typical in its psychiatric curricular. It offers extensive lectures (25 sessions) and four week clerkship predominately based on inpatient services. Students experience a behavioral science attachment in previous years, but fifth-year attachment and lecture-based classes are their first exposure to formal psychiatric training. We hypothesized that psychiatric training could change the negative stereotypes about psychiatry in medical students. We were also concerned that exposure to patients with serious mental illnesses, particularly the psychoses, might have a negative effect on their attitudes, alternatively, recognition of the reward of treating such severely ill patients could encourage a more positive view of psychiatry. We expected that students' attitude change could also reflect in the number of students planning a career in psychiatry.

### Materials and Methods

This was a naturalistic, prospective study. Pretest was taken at the beginning of the psychiatry attachment and post test at the end of attachment. All second year clinical medical students (year 5 of medical school) of Shaheed Beheshti Medical University who entered medical school in September 2000 were invited to participate in the study before beginning of psychiatric attachment. Students attended the four week psychiatry attachment in six rotating groups from February 2005 to August 2005.

All students were asked to complete a demographic form which included: gender, age, marital status and basic science exam score.

Attitude toward psychiatry was measured by using "Attitude to Psychiatry Questionnaire" (1). The questionnaire is comprised of 24 questions presented in coherent sections but were randomized within sections. All items were forced-choice Likert-style questions. The average time to complete the questionnaire was about ten minutes. This measure has been used internationally in many studies and has demonstrated good reliability, overall validity and construct validity (18). Questionnaire first was translated to Persian language, and then two professors from psychiatric department checked it for face validity. They reviewed whether or not the items in Farsi embody the same concept of the original questionnaire. The questionnaire did not assess for reliability and criterion validity and this was one of the limitations of this study.

Career intention was assessed with questions #25 and 26. First, students were categorized into five groups (Question #25) on the basis of the degree they have considered to enter psychiatry (the answers range from very much=5 to not at all=1), then they selected one of three career choices statements (Question #26):

A=students currently planning to choose psychiatry as a career, B=students who had listed psychiatry as one of their top three choices but whose current choice was a different specialty, and C=all remaining students.

At the first page of the questionnaire the goal of the assessment was explained and added that: "for many of the questions there are no right or wrong answers, we just want to get a sense of your attitude and view on psychiatry".

We emphasized on anonymity and confidentiality to overcome the possible students' tendency to give answers that are perceived as acceptable to the investigator rather than representative of the respondent's true opinion. It was explicitly stated that their responses would have no influence on their grades or exam performance. Students were not allowed to discuss the statements among themselves to avoid peer group influence. Kolmogorov-Smirnov analysis was used to test normality of distribution in variables. To analyze data with normal distribution paired t-test and

Independent t-test and for variables without normal distribution Wilcoxon test and Mann Whitney test were used. To assess degree of association between variables Kendall's test and Spearman's test were used.

### Results

#### Participants

One hundred and nine (87%) of 124 SBMU medical students September 2000 class who completed questionnaire both before and after of their psychiatric training were included in the study. Fifteen students (9 men and 6 women) were excluded from study mainly because of nonparticipation on the first day of attachment. Based on pre-existing data on demographic characteristics of students the sample did not differ significantly in age, gender distribution and basic science exam score from all of the class.

The students responding were characterized as follows: age (mean=23.9; SD=1.2), sex (47% male and 53% female), marital status (87.7 single and 12.3 married) and basic science exam score (mean=138.88; SD=14.0). Basic science exam score ranged between 0-200.

#### Overall attitudes

The percentages of students agreeing or disagreeing with various questionnaire statements are given in Table 1. To summarize data the 'strongly agree' and 'agree' responses were shown here combined as a single 'agree' response and the 'strongly disagree' and 'disagree' combined into a 'disagree' response. At the beginning of attachment students had relatively favorable attitude toward psychiatry with mean score of 84.14 on Attitude to Psychiatry Questionnaire (neutral score 72).

#### Change in students' attitudes to psychiatry and career intention

In 10 out of 24 items, students showed significant improvement in attitude toward psychiatry (Table1). We also found a significant increase in all subtests except "career and personal reward" subtest during psychiatric attachment.

Overall students' attitude (mean 24-item questionnaire score) improved during attachment from 84.14 (SD=8.19) at baseline to 87.79 (SD=8.61) at the end of the attachment. ( $t=-4.85$ ,  $p=0.000$ ) (Table2). There was also an increase in students' intention to pursue psychiatry as a career during attachment from 1.16 (SD=0.43) at baseline to 1.22 (SD=0.48) at the end of attachment ( $Z=-2.111$ ,  $p=0.035$ ) (Table3).

#### Correlations of attitudes with degree of interest in psychiatry

Are the attitudes of students interested in psychiatry similar to the attitudes of their peers? The responses of students to questions #25 and 26 were compared with

**Table 1. Percent of students agreed and disagreed with every statement of questionnaire, comparison of them before and after psychiatric attachment with Wilcoxon test and correlations of career interest in psychiatry (Question #25) pre- and post- attachment with statements. (\* P<0.05)**

Questions	Percent of students				Z	P value	Correlation with career interest (P value)	
	Pre-attachment Agree	Pre-attachment Disagree	Post-attachment Agree	Post-attachment Disagree			pre	post
<b>Overall merits of the field of psychiatry</b>								
1. "Psychiatry has advanced considerably in recent years the biological treatment and understanding of schizophrenia and depression."	62.9	3.7	79.0	2.9	-3.02	0.003*	0.104	0.026*
2. "Psychiatry is a rapidly expanding frontier of medicine."	32.5	19.5	51.9	17.3	-2.70	0.007*	0.011*	0.002*
3. "Psychiatry is unscientific and imprecise."	3.7	80.6	3.8	85.5	-2.19	0.028*	0.024*	0.001*
<b>Efficacy</b>								
4. "If someone in my family was very emotionally upset and the situation didn't seem to be improving, I would recommend a psychiatric consultation."	93.5	1.9	98.2	0.9	-2.50	0.012*	0.008*	0.086
5. "Psychiatric consultations for medical and surgical patients are only rarely helpful."	7.4	72.2	5.6	82.8	-1.84	0.065	0.178	0.346
6. "With the forms of therapy now at hand, most psychiatric patients improve."	50.0	22.2	61.9	10.5	-2.60	0.009*	0.409	0.021*
7. "It is quite easy for me to accept the effectiveness of psychotherapy."	70.4	2.7	68.5	2.9	-0.26	0.790	0.202	0.023*
<b>Role definition and functioning of psychiatrists</b>								
8. "Entering psychiatry is a waste of a medical education."	7.5	66.7	10.5	70.4	-0.55	0.582	0.019*	0.007*
9. "Today's physician does not have time to deal with patients' emotional problems."	74.1	9.3	80.0	9.6	-0.22	0.819	0.185	0.007*
10. "With few exceptions, clinical psychologists and social workers are just as qualified as psychiatrists to work with emotionally disturbed patients."	8.3	69.4	6.7	86.7	-3.28	0.001*	0.008*	0.007*
11. "Psychiatrists understand and communicate with people better than the average physician."	58.3	13.0	61.9	10.7	-0.78	0.458	0.133	0.021*
12. "Psychiatrists are fuzzy thinkers."	22.2	50.0	15.3	62.1	-2.20	0.028*	0.409	0.785
13. "Psychiatrists are too frequently apologetic when teaching psychiatry."	0.9	80.2	1.0	86.6	-0.74	0.453	0.008*	0.014*
14. "Psychiatrists tend to overanalyzed human behavior."	53.7	18.6	51.8	26.9	-1.73	0.083	0.130	0.188
<b>Possible abuses and social criticisms</b>								
15. "Psychiatrists frequently abuse their legal power to hospitalize patients against their will."	3.7	59.2	3.7	81.9	-3.72	0.000*	0.105	0.189
16. "Psychiatrists spend too much time seeing patients who don't need their care, while ignoring the problems of those most in need."	3.7	48.2	8.6	69.5	-3.19	0.001*	0.152	0.122
17. "The complications of psychiatric treatments are more than their benefits."	11.1	55.6	7.3	73.6	-2.79	0.005*	0.706	0.003*
<b>Career and personal rewards</b>								
18. "On average, psychiatrists make less money than other physicians."	20.8	21.3	24.8	26.8	-0.25	0.801	0.172	0.843
19. "Within medicine, psychiatry has high status."	37.1	15.7	44.8	20.0	-1.26	0.207	0.110	0.000*
20. "Most nonpsychiatric faculty in my medical school is critical of psychiatry."	39.6	16.1	31.4	22.5	-1.64	0.101	0.305	0.173
21. "If a student is interested in psychiatry as a career, other students or faculty will try to dissuade him or her."	38.3	36.5	32.4	44.8	-1.57	0.116	0.235	0.645
22. "If a student expresses interest in psychiatry, he or she risks being associated with a group of other would-be psychiatrists who are often seen by others as odd, peculiar or neurotic."	34.5	52.3	33.4	49.6	-0.77	0.758	0.389	0.690
23. "Psychiatry is attractive as a discipline because it is more intellectually comprehensive than other medical career. It involves many fields of study including biology, sociology, history, philosophy and literature."	62.0	11.1	68.2	10.5	-0.68	0.496	0.009*	0.001*
24. "Psychiatry courses are too easy, they should be more demanding and on a par with the difficulty of other courses."	12.2	52.4	17.1	57.2	-0.44	0.659	0.850	0.910

## Psychiatric Clerkship and Attitude to Psychiatry as a Career

The students' responses to question #25 more sensitively differentiate between different groups' interest in psychiatry than question #26. Consequently, we have presented the correlation coefficients for question #25 here (Table1 and 2).

Before attachment, 7 out of 24 attitude questions showed significant positive correlation with question #25 (Table1). There was also a positive correlation between "overall merits of psychiatry" subtest, "efficacy" subtest, "role definition and functioning of psychiatrists" subtest and total score of the test (Table2).

However other questions demonstrated only weak, nonsignificant trends, suggesting that irrespective of career interest in psychiatry, students were split on content of these items. On some questions students with more interest in psychiatry were more critical of the field or at least were more aware of its drawbacks. Specifically, students with more interest in psychiatry were more likely to agree that psychiatrists were underpaid (Question #18). Highly interested students were also more aware of the critical attitudes of others, of attempts to persuade them to choose other careers, and of the stigma consequent to their stating an interest in the field (Questions #20 and 22). Although these negative correlations was not significant. At the end of attachment, 12 out of 24 attitude questions (Table1) and all five subtest positively correlated with question #25 (Table2).

Change in attitudes during the attachment was positively correlated with change in intention to pursue psychiatry as a career ( $\rho=0.170$ ,  $n=109$ ,  $p=0.032$ )

### *Relationship between attitudes and career intentions and students characteristics*

Male students showed more favorable attitudes to psychiatry in "possible abuses and social criticism" subtest at the beginning of the attachment (mean

difference=0.62,  $t=1.98$ ,  $df=107$ ,  $p=0.045$ ). But there was no difference between male and female in subtests at the end of the course. Male students' total score at the end of attachment was 88.81( $SD=7.42$ ) and was not significantly different from female students' total score 87.35( $SD=9.32$ ) ( $t=1.05$ ,  $df=107$ ,  $p=0.293$ ). Male and female students showed no significant difference in career interest in psychiatry before- and after-psychiatric attachment. A change score was calculated for each individual on all items by subtracting the pre-scores from the post-scores. There was no interaction between gender and change in attitudes and career intention.

There was no significant correlation between age and total score before ( $\rho=-0.08$ ,  $n=109$ ,  $p=0.39$ ) and after ( $\rho=0.149$ ,  $n=109$ ,  $p=0.136$ ) attachment, however a significant correlation between change in total score during attachment and age were found ( $\rho=0.214$ ,  $n=109$ ,  $p=0.036$ )

There was no difference between single and married students in their attitude and career intention before the course. At the end of attachment married students showed higher total score compare to single students, but the relation was not significant ( $t=-1.97$ ,  $df=107$ ,  $p=0.051$ ). At the end of the attachment married students showed significantly more interest to psychiatry as a prospective career choice ( $Z=-2.469$ ,  $n=107$ ,  $p=0.014$ ) as well as more improvement on total score of the questionnaire during the attachment ( $Z=-2.155$ ,  $n=109$ ,  $p=0.031$ ).

There was not any significant correlation between score on basic science exam and attitude and career intention before training. We found a reverse trend between career intention and score of basic science exam at the beginning of attachment but it was not significant ( $\rho=-0.137$ ,  $n=109$ ,  $p=0.144$ ).

After attachment students exam score correlated negatively with intention to pursue psychiatry as a

**Table 2. Changes in attitudes of medical students toward psychiatry during psychiatric attachment (t-test) and correlation of subtests with career interest in psychiatry (Question #25) before and after attachment. (\* P<0.05)**

Questions	t	df	P value	Correlation with career interest Correlation coefficient (P value)	
				Pre	Post
Overall merits of the field of psychiatry (question 1 to 3)	-3.72	107	0.000*	0.225(0.003*)	0.266(0.001*)
Efficacy(question 4 to 7)	-4.15	107	0.000*	0.164(0.028*)	0.250(0.001*)
Role definition and functioning of psychiatrists (question 8 to 14)	-2.89	107	0.005*	0.403(0.000)	0.269(0.001*)
Possible abuses and social criticisms (questions 15 to 17)	-5.55	107	0.000*	0.090(0.231)	0.208(0.007*)
Career and personal rewards (questions 18 to 24)	-1.79	107	0.075	0.022(0.767)	0.200(0.008*)
Total (questions 1 to 24)	-4.85	107	0.000*	0.242(0.001*)	0.317(0.000*)

**Table 3. Comparison of pre-attachment and post-attachment degree of interest in psychiatry (\* P<0.05)**

Questions		percent of students					Z	P
		Very much	Much	Moderate	Somehow	Not at all		
25. "Did you ever consider entering psychiatry?"	Pre-attachment	4.2	8.4	14.3	33.6	39.5	-2.08	0.037*
	Post-attachment	7.3	13.6	12.7	26.4	40.0		
			<i>My first choice</i>	<i>One of three</i>	<i>Not one of three</i>		Z	P
26. "Do you have planned to enter psychiatry as a prospective career?"	Pre-attachment		3.4	9.2	87.4		-2.11	0.035*
	Post-attachment		2.7	17.3	80.0			

career (question #26) ( $\rho=-0.219$ ,  $n=109$ ,  $p=0.024$ ) and total score of the test ( $\rho=-0.202$ ,  $n=109$ ,  $p=0.044$ ).

## Discussion

The study confirms earlier reports of a significant positive impact of undergraduate psychiatric attachment on medical students' attitudes toward psychiatry (1, 4-9). A detailed exploration of the individual statements suggest that the change in attitudes is due to complex interaction between awareness of advances in the field of psychiatry and therapeutic potential of psychiatric interventions, acquisition of knowledge about the role of psychiatrists and decreasing concerns about possible abuses and social criticism which commonly leveled at psychiatry.

The career intention of students was changed significantly during attachment in favor of psychiatry and the change showed significant, positive correlation with change in students' attitude.

In contrast to previous reports that female students have more positive attitudes toward psychiatry (9,16), we found significantly less concern about "possible abuses and social criticism" toward psychiatry in male students before the attachment and this warrants further investigations. This difference resolved after the attachment and there was not any difference between male and female students in subtests and total scores. There was no difference, however, in the extent to which their attitudes improved, indicating that female students were as receptive to their experiences on the attachment as male students.

There was no difference between older and younger students before and after attachment in career intention. At the end of attachment older students showed more improvement in total score compare to younger students, which may reflect more receptiveness in older students for psychiatric training. Our finding did not replicate the previous report that students who choose psychiatry were older than other medical students<sup>19</sup>. One possible explanation would be the low variance of age in our sample.

Although one previous study demonstrated that medical students choosing psychiatry were more likely to be single during medical school (20), we found significantly higher interest in psychiatry as a prospective career among married students. They also were more receptive on psychiatric training and showed

more improvement during attachment. This difference might result from different design between studies or other factors which need to be more explored.

Our study showed that at the end of attachment students with higher interest in psychiatry as a career scored lower on basic science exam. The basic science exam in SBMU is quiet similar to USME step1. It is consistent with earlier reports which showed that psychiatrists tend to have lower score in USMLE step1 compare to other specialties except family medicine specialists and gynecologists(21). This finding indicates that those who are interested to become psychiatrists may come to medical school with different predispositions and skills that are different from others who become procedure-oriented specialists. For the reason mentioned psychiatrists must be verbally and interpersonally skilful. Consistent with this notion, previous studies showed medical students who were interested in psychiatry, had higher scores in the verbal section of the medical college admission test (22).

In conclusion, it is important that teachers of psychiatry realize that their actions have a significant impact on students' attitude to psychiatry and their intention to pursue psychiatry as a career. Thus, teaching psychiatry at an undergraduate level may well have important implications, not only in terms of the way future doctors who are not psychiatrists respond to patients psychological difficulties, but also in terms of future recruitment into the specialty.

## Limitations of study

The questionnaire did not assess for reliability and criterion validity. The participants in the study were aware of our area of interest and the study was not longitudinal, so that could not test the effect of change in students' attitude on their subsequent choices.

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