

## Iranian Medical Students' Perception of Psychiatry: Before and After a Psychiatry Clerkship

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**Objective:** We aimed to compare the medical students' attitude towards psychiatry before and after psychiatry clerkship, and to examine the association of choosing psychiatry as a future career with some personal characteristics .

**Method:** In a self-controlled, quasi-experimental study, all of the medical students entering the psychiatry clerkship in three major medical schools of Iran located in Tehran (Tehran, Shahid Beheshti, and Iran University of Medical Sciences) were asked to participate anonymously in the study on the first and the last 3-days of their psychiatry clerkship. From 346 invited 4th-5th year medical students, 225 (65%) completed anonymous self-report questionnaires before and after a 4-week psychiatry clerkship

**Results:** Positive response to choose psychiatry as a career was seen in 13.3 % and 18.3 % before and after psychiatry rotation, respectively. However, the difference was not statistically significant; about one-quarter of the students were turned on to psychiatry and 25% were discouraged during the clerkship. Individual pair wise comparisons revealed significant improvements only in two out of 13 measured aspects of psychiatry. Seventeen out of 38 (47.7%) students who identified psychiatry as the career of choice or strong possibility reported that one of their family members or close friends' mental illness had an impact on their choice. Those students who considered psychiatry as the strong possibility claimed that they are more interested in humanities (OR = 2.96; 95% CI: 1.17, 7.49), and playing a musical instrument (OR = 2.53; 95% CI: 1.15, 5.57).

**Conclusion:** It may be concluded that exposure to psychiatry clerkship could influence medical students' opinion about psychiatry positively, or negatively. Personal characteristics and individual interests of students may play an important role in choosing psychiatry as their future career.

**Key words:** *Attitude, Career choice, Medical Students, Psychiatry, Psychiatry clerkship*

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Several studies indicate a decline in the number of Students who choose psychiatry as a specialty (1-11). However, since 1940, recruitment in psychiatry has been cyclical in the United States (1, 12-15). These studies mostly focus on students' attitude towards psychiatry as a career, and some of which also

highlight the factors that affect this attitude (1-11, 16-18). Several studies have been shown that the medical students' attitude toward psychiatry at the end of the psychiatry clerkship is an influential predictor of their decision to choose a career in psychiatry at the future (14, 17, 19) while the current curricula focus more on

developing medical students' knowledge than on their attitudes (12, 14, 20).

One of the most important factors is psychiatry clerkship in which the new comer students are headed (17). The evidence for the influence of psychiatry clerkship on the students' attitude toward psychiatry as a future career and as a medical specialty is controversial (21). On the one hand, several studies showed no major impact of psychiatry clerkship on the students' attitude toward psychiatry as a career (22-24). On the other hand, many studies reported an improvement in the students' opinion about psychiatry during the clerkship (9, 14, 25-35). Evidence shows that students regard psychiatry as an interesting medical discipline, whereas they believe this career has a low socioeconomic level among other specialties. Besides, students are worried about other family members or friends' judgment about their scores because of this career preference (2, 36-38). It is explicable that the curricula, duration, and students' duties during psychiatry clerkship are different among various universities which make it difficult to compare these studies with one another (5). To our knowledge, only one study was conducted in Iran in one major medical school which investigated the role of psychiatry clerkship in students' attitude towards this specialty (29). They reported positive results but the small sample size challenges generalization of the finding (29). In addition, there are individual factors that may influence students' attitudes such as gender (4, 14, 39-42), personality characteristics (14, 39), and previous experience with mental illness (7, 40).

The first aim of our study was to assess and compare the medical students' attitude towards psychiatry as a prospective career and the degree of attractiveness of psychiatry as a medical specialty before and after psychiatry clerkship. Additionally, considering our experiences, we can imply that some personal characteristics may have a more significant association with choosing psychiatry as a career. Therefore, as the second aim of the study, we tested the hypothesis that there are associations between choosing psychiatry as a future career and some personal characteristics including gender, interest in humanities, participation in social activities, playing a musical instrument, and having close relative or friend already diagnosed with a mental illness.

## Materials and Methods

This study had a self-controlled, quasi-experimental design. The participants were fourth or fifth year medical students entering the psychiatry clerkship in three major medical schools of Iran located in Tehran (Tehran, Shahid Beheshti, and Iran University of Medical Sciences). All of the students were asked to participate anonymously in the study on the first and the last 3-days of their psychiatry clerkship. The study was based on a questionnaire adopted by Feiefel et al. (11). The rating of several questions was reversed but

the original questionnaire was preserved along with its structure. Most of the questions were in a 5-point Likert scale format and explored the following five areas: 1. The demographic backgrounds, 2. Factors the medical students considered important in their choice of psychiatry, 3. The degree to which students considered possible career, 4. The extent to which students found psychiatry attractive enough to build a career on, 5. The students' estimates of the degree to which others respected the skills of psychiatrists. The following questions were added to the questionnaire: "Do you think that one of your relatives' or close friends' mental illness has had any impact on your choice of psychiatry as your future career?"; "In terms of skill and talent, you are more interested in natural science or humanities?"; "Have you participated at least in one social activity during your medical school training?"; and "Have you got any skills to play a musical instrument"? The questionnaire was translated into Farsi and tailored by 5 experts' opinion (four psychiatrists and a psychologist) to establish content validity, and was also adjusted for social and cultural circumstances. The reliability of the questionnaire has been assessed in the past and Cronbach's alpha was 0.612 to 0.948 for the different items (43, 44).

The primary statistical analysis consisted of a Wilcoxon Signed Ranks for each of the questions. The Mann-Whitney U-test was performed to examine the differences between females and males in identifying psychiatry as a future career. Then, a Wilcoxon Signed Ranks was performed for each gender to examine changes in considering a career in psychiatry before and after their clerkship course. Also, Chi-square tests were used to examine the association between categorical variables. To explore the association of various aspects of psychiatry with identifying this field as a future career, a logistic regression, backward stepwise method was used. Secondary analyses sought to identify the association of choosing psychiatry as a future career with some variables including gender, and some personal characteristics such as being interested in humanities, participation in social activities, having the skills to play a musical instrument, and having a family member or close friend with mental illness. A P-value of less than 0.05 was considered statistically significant. All analyses were carried out using the Statistical Package for the Social Sciences version 16 (SPSS 16.0).

## Results

From 346 invited students, 225 (65%) (139 from Tehran, 39 from Shahid Beheshti, and 47 from Iran medical schools) participated in this study. The mean ( $\pm$ SD) age of respondents was 24.7 ( $\pm$ 2.1) years and 125 (55.6%) of them were female.

Positive response to choose a psychiatry specialty as the career of choice or a strong possibility was seen in 29 (13.3 %) and 40 (18.3 %) respondents before and after psychiatry rotation, respectively.

**Table 1: Comparison of the degree of considering psychiatry as a future career among medical students before and after psychiatry clerkship in three Schools of Medicine in Tehran, Iran**

	Degree of considering psychiatry as future career										Wilcoxon Signed Ranks			Test Statistics	
	Chosen career		Strongly possibility		No strong Opinion yet		Unlikely		No way		Positive ranks	Negative ranks	Ties	Z	P value
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)				
<b>School</b>	Before	After	Before	After	Before	After	Before	After	Before	After					
<b>Tehran</b>	2 (1.5)	2 (1.5)	16 (11.9)	25 (18.2)	54 (40.0)	38 (27.7)	37 (27.4)	42 (30.7)	26 (19.3)	30 (21.9)	31 (23.3)	35 (26.3)	67 (50.4)	-0.27	0.79
<b>Shahid Beheshti Iran</b>	0 (0.0)	1 (2.7)	3 (7.9)	4 (10.8)	15 (39.5)	11 (29.7)	11 (28.9)	8 (21.6)	9 (23.7)	13 (35.1)	7 (19.4)	8 (22.2)	21 (58.4)	-0.22	0.83
<b>Total</b>	2 (0.9)	5 (2.3)	27 (12.4)	35 (16.0)	80 (36.9)	61 (27.9)	58 (26.7)	60 (27.4)	50 (23.0)	58 (26.5)	51 (24.1)	53 (25.0)	108 (50.9)	-0.80	0.42

**Table 2: The attractiveness of psychiatry with regard to the following aspects before and After psychiatry clerkship at 3 medical schools in Tehran, Iran: (1 = very attractive, 2 = attractive, 3 = neutral, 4 = not attractive, 5 = extremely unattractive)**

The aspects	Mean		Z'	p value
	Before	After		
Financial reward	3.04	2.89	-0.197	0.050
Lifestyle	3.14	3.16	-0.006	0.995
Job satisfaction	3.08	3.05	-0.036	0.971
Interesting subject matter	3.54	3.48	-0.836	0.403
Intellectually challenging	3.54	3.44	-0.924	0.356
Prestige within the medical community	2.92	2.82	-1.224	0.221
Degree to which patients are helped effectively	3.30	3.46	-1.639	0.101
Degree to which the field draws upon all aspects of medical training	3.53	2.56	-7.035	<0.001 <sup>†</sup>
Rapidly advancing understanding and treatment of illness	3.29	2.91	-2.615	<0.01 <sup>†</sup>
Overall bright and interesting future for the field	3.10	3.10	-0.006	0.995
Based upon a reliable scientific foundation	3.01	3.04	-0.215	0.830
Enjoyable work	2.80	3.12	-1.898	0.058
Association with other physicians	3.14	2.93	-2.352	0.019

\*Wilcoxon signed-rank test

†Significant

**Table 3: Measured aspects those have significant associations with choosing psychiatry as a future Career after clerkship by using a logistic regression analysis (backward stepwise method)**

Statistic Aspect	B	S.E.	Wald	OR (95% CI)	P value
<b>Job satisfaction</b>	1.64	0.41	16.06	5.15 (2.31, 11.47)	<0.001
<b>Degree to which patients are helped effectively</b>	-0.65	0.36	3.20	0.52 (0.26, 1.06)	0.073
<b>Rapidly advancing understanding and treatments</b>	0.99	0.36	7.35	2.68 (1.31, 5.46)	<0.01
<b>Enjoyable work</b>	0.89	0.27	10.67	2.44 (1.43, 4.16)	<0.001
<b>Constant</b>	-10.50	1.91	30.10	0.00	<0.000

**Table 4: Degree to which medical students respected and estimated the respect by other physicians, classmates, and family members given to psychiatrists**

		Very much		much		Neutral/average		little		Very little		Wilcoxon Signed Ranks			Z	P value
		Before N (%)	After N (%)	Before N (%)	After N (%)	Before N (%)	After N (%)	Before N (%)	After N (%)	Before N (%)	After N (%)	Positive ranks N (%)	Negative ranks N (%)	Ties N (%)		
<b>Q1.</b>	How much do you respect the skills and knowledge of psychiatrists?	46 (21.2)	47 (21.9)	78 (35.9)	88 (40.9)	73 (33.6)	57 (26.5)	16 (7.4)	18 (8.4)	4 (1.8)	5 (2.3)	58 (27.6)	53 (25.3)	99 (47.1)	-0.548	0.584
<b>Q2.</b>	How much do you think other physicians respect the skills and knowledge of psychiatrists?	13 (6.2)	13 (6.1)	57 (27.0)	61 (28.5)	84 (39.8)	85 (39.7)	44 (20.9)	38 (17.8)	13 (6.2)	17 (7.9)	54 (26.2)	56 (27.2)	96 (46.6)	-0.167	0.867
<b>Q3.</b>	How much do you think your classmates respect the skills and knowledge of psychiatrists?	12 (5.7)	16 (7.5)	53 (25.2)	55 (25.8)	90 (42.9)	94 (44.1)	41 (19.5)	35 (16.4)	14 (6.7)	13 (6.1)	58 (28.3)	52 (25.4)	95 (46.3)	-1.230	0.219
<b>Q4.</b>	How much do you think members of your family respect the skills and knowledge of psychiatrists?	17 (8.1)	23 (10.8)	55 (26.2)	47 (22.1)	74 (35.2)	73 (34.3)	42 (20.0)	51 (23.9)	22 (10.5)	19 (8.9)	70 (34.3)	63 (30.9)	71 (34.8)	-0.054	0.957

There was no significant difference in proportion of students who identified psychiatry as a career before and after psychiatry clerkship (Table 1). However, 24.1% of the students switched to choose psychiatry and 25% were discouraged during the clerkship but the difference was not statistically significant ( $z = -0.10$ ) (Table 1).

A comparison of impact of clerkship on choosing psychiatry as a future career revealed no significant difference across the 3 universities (Chi square = 0.74,  $df = 2$ ). Furthermore, no significant difference was observed between genders in terms of considering psychiatry as a career ( $z = -1.48$ ) and within gender with respect to impact of clerkship on identifying psychiatry as the career of choice or strong possibility ( $z = -0.94$ ,  $z = -1.186$ ; for female and male, respectively).

Attractiveness of psychiatry as a specialty in terms of 13 determined aspects was rated by medical students before and after clerkship. Individual pair wise comparisons revealed significant improvements only in two measured aspects including "degree to which the field draws upon all aspects of medical training," and "rapidly advancing understanding and treatment of illness," (Table 2). In addition, to explore which measured aspects have significant associations with choosing psychiatry as a future career after clerkship, a logistic regression analysis (backward stepwise method) was used. The result showed "job satisfaction," "rapidly advancing understanding and treatments," and "enjoyable work" had

significant associations with choosing psychiatry as a career (Table 3). Medical students were asked to estimate the degree to which they, their classmates, families, and other physicians respected the skills and knowledge of psychiatrists. Table 4 compares the rating results before and after clerkship. Students' estimations did not significantly change over the course of their clerkship. However, more than half of the students indicated that they respect the skills and knowledge of psychiatrists but estimated roughly that around one-third of their families, classmates, and other physicians respect the skills and knowledge of psychiatrists (Table 4).

Seventeen out of 38 (47.7%) students who identified psychiatry as the career of choice or strong possibility reported that one of their family members or close friends' mental illness had an impact on their choice of psychiatry as a future career. In response to the question assessing interest of medical students in experimental science or humanities, 10 out of 37 (27.0%) students who considered psychiatry as the career of choice or strong possibility stated that they are more interested in humanities compared to 13 out of 117 (11.1%) students who affirmed that it would be unlikely for them to choose psychiatry as a career or had definitely ruled it out (Odds Ratio = 2.96; 95% CI: 1.17, 7.49).

Moreover, in terms of participation in social activities over the course of medical school training, no significant difference was observed between the two groups (60.5% vs. 61.2% positive response, respectively;  $\chi^2 = 0.006$ ,  $df = 1$ ).

Among students who identified psychiatry as the career of choice or a strong possibility, 15 (39.5%) indicated that they had developed the skills to play musical instrument compared to 24 out of 117 (20.5%) students who reported that it would be unlikely for them to choose psychiatry as a future career or had definitely ruled it out (Odds Ratio = 2.53; 95%CI: 1.15, 5.57).

## Discussion

The present study showed that the probability of psychiatry to be identified as a future career by medical students before and after the clerkship was 13.3% and 18.3%, respectively. About one-quarter of the students switched to psychiatry and 25% were discouraged during the clerkship. Before the clerkship, 49.7% of the students did not consider psychiatry as their future career choice. This result is consistent with the frequently reported low popularity of psychiatry as the career of choice in different settings (1, 8, 26, 45, 46). In addition, the proportion of the students who did not identify psychiatry as a career choice remained as high as 53.9% which is consistent with some previous studies (1, 8, 26, 47). The evidence in the literature for this topic is controversial (21). Several studies showed no major impact of psychiatry clerkship on the students' attitude toward psychiatry or as a career choice (22-24). On the other hand, many studies reported an improvement in the students' perception (9, 14, 25-35). In addition to the variation in methodology of these studies, significant diversity in clerkship-related factors such as quality of course, level of student participation in patient care, and faculty involvement in teaching psychiatry might explain these controversies (14, 21).

There was no significant gender difference in considering psychiatry as a career. This finding was in line with some previous studies (34, 48) but inconsistent with the findings of some other (20, 37, 40, 41, 49).

Our study highlighted "job satisfaction," "rapidly advancing understanding and treatments," and "enjoyable work" among the measured aspects of psychiatry to be contributing factors in determining this specialty as a future career. Some medical students appreciated the breadth of psychiatry field and rapid advances especially in neuroscience findings (9, 45, 46, 50); however, students' opinions are diverse in different locations (51).

Our results were in line with the findings of previous studies showing that psychiatry attracted students and they made positive remarks about psychiatry as an enjoyable career (48), and with job satisfaction (42).

More than half of the students indicated that they respect the skills and knowledge of psychiatrists, whilst around one-third of their families, classmates, and

other physicians respect the skills and knowledge of psychiatrists. Feifel and colleagues found comparable results but for freshman medical students (11).

The presence of a family member or a close friend with a mental illness had an impact on choosing psychiatry as future career choice in about half of the students. Brockington and Mumford reported that many doctors enter the field of psychiatry

Because they may have family members with mental illness (45) However, Koh and colleagues found that family experiences with psychiatrists had the least impact on medical students' interest in psychiatry (9).

Medical students who considered psychiatry as a career of choice, about three times more declared that they are interested in humanities than their other classmates. This finding is in line with other studies that showed those who chose psychiatry residency programs were more interested in social sciences or humanities rather than natural sciences (39, 52). In addition, they are more reflective, and responsive to abstract ideas, and are more interested in theoretical issues (45, 53). Although in terms of participation in social activities over the course of medical school training, no significant difference was found among the medical students, students who identified psychiatry as the career of choice indicated 2.5 times more had made progress the skills to play musical instrument. The results of our study should be interpreted in the light of its limitations. The response rate was 65%. In addition, the study was short term and observational. In the psychiatry clerkship at our centers, each medical student is clinically-attached to a faculty member or a psychiatry resident to see patients in outpatient clinics, emergency department, and inpatient wards as well. The students were engaged in a clerkship mostly in referral academic hospitals rather than ambulatory, community-based services. Therefore, most of the patients are complicated or treatment-resistant, and they are not representative of those patients who would be seen by general practitioners in the community. Furthermore, the training during clerkship is opportunistic and the students only visit patients who are available at that time. Consequently, these issues might negatively impact on the students' attitude toward psychiatry.

Future research on psychiatry education has to move toward multicenter, long term, interventional and comprehensive studies that include all individual, educational, sociocultural and economic factors to respond to the remaining questions (21).

## Conclusion

It may be concluded that exposure to a psychiatry clerkship could influence medical students' opinion about psychiatry positively, or negatively. Personal characteristics and individual interests of students may play an important role in the degree of attractiveness of psychiatry as a future career.

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