

Attitude of Second Year Medical Students towards Psychiatry Studying in a Private Medical College in Western Uttar Pradesh

Singh Shweta¹, Gupta Prerana^{2,*}

¹Post Graduate Resident, Department of Psychiatry, Teerthanker Mahaveer Medical College and Research Centre, Moradabad

²Associate Professor, Department of Psychiatry, Teerthanker Mahaveer Medical College and Research Centre, Moradabad

Abstract Context: Both psychiatry as a specialty and mental illnesses carry a lot of stigmatizing attitudes. Even medical professionals are not immune to prevailing stigma. Psychiatrists are perceived to have less scientific attitude, earn less money, to be less respected, and to have less prestige. **Aims:** The present study was designed to know the attitude of medical students with exposure to medical education, toward psychiatry as a specialty. **Settings and Design:** The study was conducted at Teerthanker mahaveer medical college, Moradabad. The study was done among 110 second year medical students. **Materials and Methods:** Self-administered sociodemographic and Attitude Toward Psychiatry-30 items questionnaire were given to the second-year medical students after a psychiatry lecture. Consent was taken individually from all the 2nd year medical students (total=150), out of which 40 students refused to give the consent. The questionnaire was explained in detail to the rest of the 110 students and the scores were analyzed using appropriate statistical tools. **Statistical Analysis Used:** unpaired t-test, one-way ANOVA test with post-hoc bonferroni test, Chi-square test using SPSS version 21. **Results:** nearly 63.6% of second year medical students had positive attitude toward psychiatry (chi-square value = 0.313, p=0.855). Only 22.7% second-year students affirmatively indicated to choose psychiatry as a career choice while 24.5% denied choosing psychiatry as a speciality and 52.7% had neutral attitude toward choosing psychiatry. **Conclusions:** There was no significant difference in distribution of ATP score between males and females. Despite all the stigma towards psychiatry our students had more positive attitude toward psychiatry. The most positive responses were received in the items such as “psychiatric illness deserve at least as much attention as physical illness”, “psychiatry is a respected branch of medicine”, psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill “, “in recent years psychiatric treatment has become quite effective”, psychiatry is the most important part of the curriculum in medical schools” and “if we listen to them psychiatric patients are just as human as other people”.

Keywords Attitude, Psychiatric hospital, Psychiatric illness, Psychiatrist, Stigma

1. Introduction

For two decades, there has been growing worldwide concern that psychiatry as a profession, its identity, and image is in crisis [1–4]. Moreover, there is an imbalance between the high numbers affected by mental disorders [5–7], the high and increasing worldwide burden attributable to mental disorders in terms of disability-adjusted life years (DALYs), years of life lost to premature mortality (YLL) and years lived with disability (YLD) [8], and the declining numbers of young academics choosing psychiatry as a career

[4,9–13].

In order to learn more about medical students' views of psychiatry, numerous studies have focused on their attitudes toward psychiatry and their intended or de nite career choice in order to obtain a deeper insight into the factors which might contribute to a better standing [14–25]. Most studies indicate a discrepancy between positive attitudes toward psychiatry and low willingness to work in the field [14,17,18].

In particular, medical students acknowledge the value of psychotherapy [17], view psychiatry as intellectually challenging and personally rewarding, but are reported to entertain a certain skepticism toward factors such as scientific standing, status, prestige and financial prospects, psychiatrists, patients, and treatment [14].

* Corresponding author:

preranagupta1978@gmail.com (Gupta Prerana)

Published online at <http://journal.sapub.org/ijcp>

Copyright © 2019 The Author(s). Published by Scientific & Academic Publishing

This work is licensed under the Creative Commons Attribution International

License (CC BY). <http://creativecommons.org/licenses/by/4.0/>

As a specialization of choice, psychiatry has not been looked up to in the same breath as that of other clinical subjects. It continues to struggle with its negative image which results in reduced postgraduate recruitment rates in developed and developing countries. [26,27]

Existing stigma and negative attitude affects not the patient care only but choosing psychiatry as career option by medical students as well. Most medical students consider psychiatry an unrewarding and a stressful specialty [28]. Stigma attached to psychiatric illnesses is also reflected by the fact that very few among the doctors prefer to specialize in psychiatry and even familial pressure against the psychiatry as a career choice has been reported [29].

India with its developing background is no immune to it where the problem is magnified by the fact that less scientific, more religious, magical, and supernatural etiological and treatment approaches for mental illness exist in the society, particularly conspicuous in rural areas. With limited availability of mental health workforce (0.07 psychiatrists/100,000 population and 0.12 psychiatric nurses/100,000 population) [30], India is facing an acute shortage of professionals with either zero or insufficient training, supervision, and support to recognize, refer, and follow-up those with mental illness [30].

According to one of the studies, the teaching of psychiatry at the UG level was either disorganized or not done properly [18]. Other studies have reported that compared to other specialists, psychiatrists are perceived to earn less money, to be less respected, and to have less prestige [31-34], social stigma, disapproving attitude of non psychiatric faculty and assumed higher rate of psychiatric morbidity in psychiatrists are other factors enumerated. [35,36].

The attitudes to psychiatry among medical undergraduates have been regarded as key factors in determining the choice of psychiatry as a career and willingness to deal with psychiatric disorders in general practice [37]. Most part of attitude building toward specialty subjects takes place during UG training. Therefore, attitude of medical students is of utmost importance. Thus, an understanding of the attitudes of medical students toward psychiatry is important, as they are the potential trainees in psychiatry. The study was planned to know the perception, knowledge, and attitude toward psychiatry as a discipline and as a career option among undergraduates of different years of medical education.

2. Aims and Objectives

The inability to attract medical graduates to specialize in psychiatry has always been a serious challenge to psychiatry training programs. Therefore, this study was undertaken to assess the attitude of second year medical students, toward psychiatry as a subject of speciality, patients with mental illness, treatment modalities offered in psychiatry, and their wishes to take up psychiatry as a career.

3. Materials and Methods

A cross-sectional study was conducted among 110 second year medical students of Teerthanker Mahaveer university.

The attitude of medical students towards psychiatry was measured by Attitude toward psychiatry -30 (ATP-30) [38]. Consent was taken individually from all the 2nd year medical students (total=140), out of which 30 students refused to give the consent. The questionnaire was explained in detail to the rest of the 110 students.

The collected data was analyzed by SPSS version -20 using independent samples t-test plus bivariate and multivariate logistic regression.

4. Study Design and Sample

This cross sectional study was conducted at a tertiary care teaching medical college of Moradabad. All of 150 second year students were approached to be part of the study. Anonymity was maintained and the students were explained about the objectives of the study, and were requested to fill the ATP-30 questionnaire after taking informed consent. Out of all the second year students approached 110 consented to take part and filled and returned complete questionnaires.

The ATP-30 scale is a 5-point likert scale designed and validated by Burra et al. on a group of Canadian students³⁸. This scale has been used in multiple surveys across different countries all over the world in English form and has proven validity. The scale consists of 30 positively and negatively phrased items that measure the strength of respondent's attitude to various aspects of psychiatry. A score of 1 denotes a highly positive attitude, 5 denote a highly negative attitude, and 3 denotes a neutral response. The score of each positively phrased item was converted by subtracting it from 6. The global scores range from 30 to 150. Global score of <90 (scores of 1 and 2 combined) suggests a negative attitude to psychiatry, a score of >90 (scores of 4 and 5 combined) denotes an overall positive attitude, while a global score of 90 (average score of 3) is considered to represent a neutral attitude. Each of the thirty questions were analyzed independently and thematically with group of questions together.

The questionnaire was administered in English as the students were expected to be proficient in English as it was the language in which they were taught the curriculum.

The components of the scale were grouped into four subgroups. (1) Psychiatric patients and psychiatric illness (2) psychiatrists and psychiatry career choice (3) psychiatric knowledge and teaching (4) psychiatric treatment and hospitals for analysis as done in previous studies [39,40].

5. Statistical Analysis

Descriptive statistics was performed by calculating mean and standard deviation for the continuous variables.

Categorical variables are presented as absolute numbers and percentage. Nominal categorical data between the groups were compared using chi-square goodness-to-fit test.

The software used for the statistical analysis were SPSS (statistical package for social sciences) version 25.0 and MedCalc software.

The statistical tests used were:

- ❖ One-way ANOVA (Analysis of Variance) test for comparison of difference between mean values of more than 2 groups when the data follows normal distribution.
- ❖ Post-hoc tests are run to confirm where the differences occurred between groups, or they are used for the inter-group comparisons. Post hoc tests attempt to control the experimentwise error rate (usually $\alpha = 0.05$) in the same manner that the one-way ANOVA is used instead of multiple t-tests.
- ❖ Unpaired or Independent t-test is used for comparison of mean value between 2 groups when the data follows normal distribution.
- ❖ Chi-square test is used to investigate whether distributions of categorical variables differ from one another.
- ❖ The p-value was taken significant when less than 0.05 ($p < 0.05$) and Confidence interval of 95% was taken.

6. Results

Table 1. Mean ATP scores of the 4 domains

	Minimum	Maximum	Mean	Std. Deviation
1st domain	10.00	20.00	15.65	2.32
2nd domain	20.00	51.00	32.54	5.60
3rd domain	14.00	30.00	22.40	3.57
4th domain	12.00	36.00	25.51	3.73
ATP-30	67.00	128.00	96.09	10.94

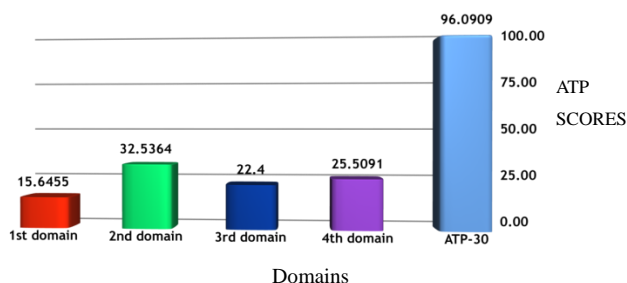


Figure 1. ATP scores of the 4 domains

Table 2. Individual Atp Scores

		Frequency	Percent
1. Psychiatry is unappealing because it makes so little use of medical training	Disagree	69	62.7
	Neutral	20	18.2
	Agree	21	19.1
2. Psychiatrists talk a lot but do very little	Disagree	67	60.9
	Neutral	21	19.1

	Agree	22	20.0
3. Psychiatric hospital share little more than prisons	Disagree	47	42.7
	Neutral	40	36.4
	Agree	23	20.9
4. I would like to be a psychiatrist	Disagree	27	24.5
	Neutral	58	52.7
	Agree	25	22.7
5. It is quite easy for me to accept the efficacy of psychotherapy	Disagree	15	13.6
	Neutral	55	50.0
	Agree	40	36.4
6. On the whole people taking up psychiatric training are running away from the participation in real medicine	Disagree	56	50.9
	Neutral	26	23.6
	Agree	28	25.5
7. Psychiatrists seem to talk about nothing but sex	Disagree	77	70.0
	Neutral	16	14.5
	Agree	17	15.5
8. The practice of psychotherapy basically is fraudulent since there is no strong evidence that it is effective	Disagree	65	59.1
	Neutral	31	28.2
	Agree	14	12.7
9. Psychiatric teaching increases our understanding of medical and surgical patients	Disagree	6	5.5
	Neutral	35	31.8
	Agree	69	62.7
10. The majority of students report that their psychiatric undergraduate training has been valuable	Disagree	4	3.6
	Neutral	47	42.7
	Agree	59	53.6
11. Psychiatry is a respected branch of medicine	Disagree	9	8.2
	Neutral	16	14.5
	Agree	85	77.3
12. Psychiatric illness deserves at least as much attention as physical illness	Disagree	5	4.5
	Neutral	12	10.9
	Agree	93	84.5
13. Psychiatry has a very little scientific information to go on	Disagree	51	46.4
	Neutral	28	25.5
	Agree	31	28.2
14. With the forms of therapy now at hand most psychiatric patients to improve	Disagree	7	6.4
	Neutral	38	34.5
	Agree	65	59.1
15. Psychiatrists tend to be at least as stable as the average doctor	Disagree	18	16.4
	Neutral	46	41.8
	Agree	46	41.8
16. Psychiatric treatment causes patients to worry too much about their symptoms	Disagree	28	25.5
	Neutral	30	27.3
	Agree	52	47.3
17. Psychiatrists get less satisfaction from their work than other specialists	Disagree	42	38.2
	Neutral	38	34.5
	Agree	30	27.3
18. It is interesting to try to	Disagree	13	11.8

unravel the cause of a psychiatric illness			
	Neutral	25	22.7
	Agree	72	65.5
19. There is very little that psychiatrists can do for their patients	Disagree	72	65.5
	Neutral	16	14.5
	Agree	22	20.0
20. Psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill	Disagree	7	6.4
	Neutral	26	23.6
	Agree	77	70.0
21. If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded	Disagree	39	35.5
	Neutral	33	30.0
	Agree	38	34.5
22. At times it is hard to think of psychiatrists as equal too their doctors	Disagree	54	49.1
	Neutral	25	22.7
	Agree	31	28.2
23. These days psychiatry is the most important part of the curriculum in medical schools	Disagree	11	10.0
	Neutral	33	30.0
	Agree	66	60.0
24. Psychiatry is so unscientific that even psychiatrists can't agree as to what its basic applied sciences are	Disagree	44	40.0
	Neutral	44	40.0
	Agree	22	20.0
25. In recent years, psychiatric treatment has become quite effective	Disagree	7	6.4
	Neutral	23	20.9
	Agree	80	72.7
26. Most of the so-called facts in psychiatry are really just vague speculations	Disagree	31	28.2
	Neutral	61	55.5
	Agree	18	16.4
27. If we listen to them psychiatric patients are just as human as other people	Disagree	13	11.8
	Neutral	28	25.5
	Agree	69	62.7
28. The practice of psychiatry allows the development of really rewarding relationships with people	Disagree	3	2.7
	Neutral	25	22.7

	Agree	82	74.5
29. Psychiatric patients are often more interesting to work with than other patients	Disagree	10	9.1
	Neutral	43	39.1
	Agree	57	51.8
30. Psychiatry is so amorphous that it cannot really be taught effectively	Disagree	36	32.7
	Neutral	44	40.0
	Agree	30	27.3

Table 3. Distribution of Responses to "I want to Become a Psychiatrist"

RESPONSES	SECOND YEAR STUDENTS (FREQUENCY)	PERCENTAGE
DISAGREE	27	24.5
NEUTRAL	58	52.7
AGREE	25	22.7

Table 4. Distribution of ATP Scores across the Sample

ATP score	Frequency	Percent
ATP < 90	29	26.4%
ATP = 90	11	10.0%
ATP > 90	70	63.6%
Total	110	100.0%

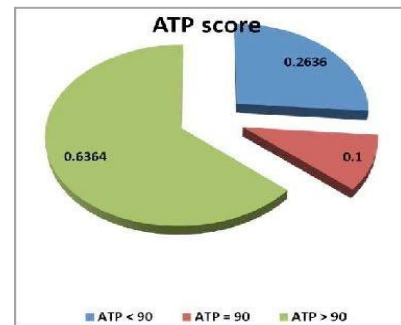


Figure 2. ATP scores distribution across the sample

Table 5. Distribution of ATP Scores According to Gender

Sex	ATP score			Total
	ATP < 90	ATP = 90	ATP > 90	
Male	14	6	32	52
	26.9%	11.5%	61.5%	100.0%
Female	15	5	38	58
	25.9%	8.6%	65.5%	100.0%
Total	29	11	70	110
	26.4%	10.0%	63.6%	100.0%

The distribution of ATP score was compared between males and females using the Chi-square test. There was no significant difference in distribution of ATP score between males and females.

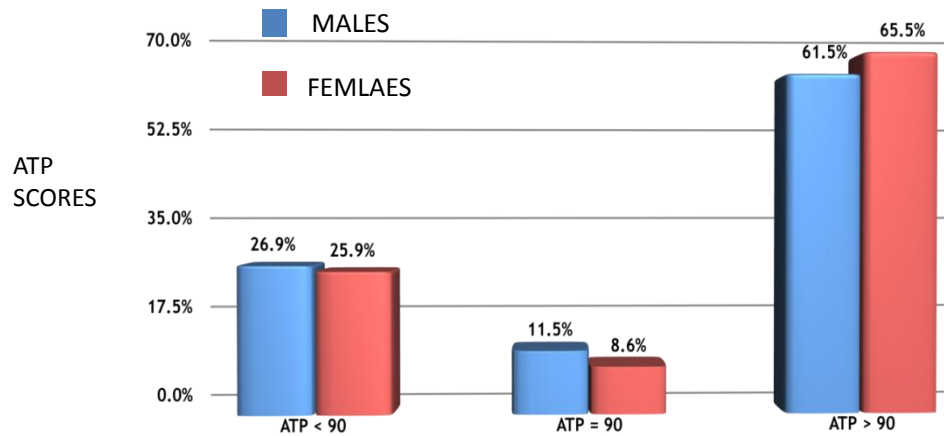


Figure 3. Distribution Of Atp Scores According To Gender

Table 6. Distribution of ATP Scores According to Age

	Male	Female		
Age group	ATP score			Total
	ATP < 90	ATP = 90	ATP > 90	
18-19 years	5	4	12	21
	23.8%	19.0%	57.1%	100.0%
20-21 years	22	5	51	78
	28.2%	6.4%	65.4%	100.0%
22-24 years	2	2	7	11
	18.2%	18.2%	63.6%	100.0%
Total	29	11	70	110
	26.4%	10.0%	63.6%	100.0%

The distribution of ATP score was compared between different age groups using the Chi- square test. There was no significant difference in distribution of ATP score between different age groups.

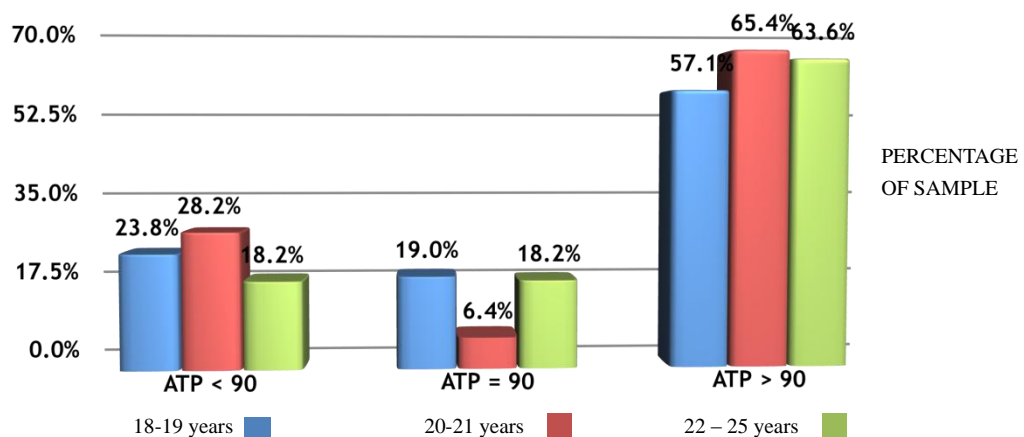


Figure 4. Distribution of ATP Scores According to Age

Table 7. Mean Distribution of 1st Domain Scores as Per Gender

Gender	1st domain				
	Mean	Std. Deviation	Mean Difference	t-test value	p-value
Male	14.96	2.55	-1.30	-3.029	0.003*
Female	16.26	1.92			

There was a significant difference between the mean first domain scores between males and females. Females had a significantly higher score in the first domain.

Mean 1st domain

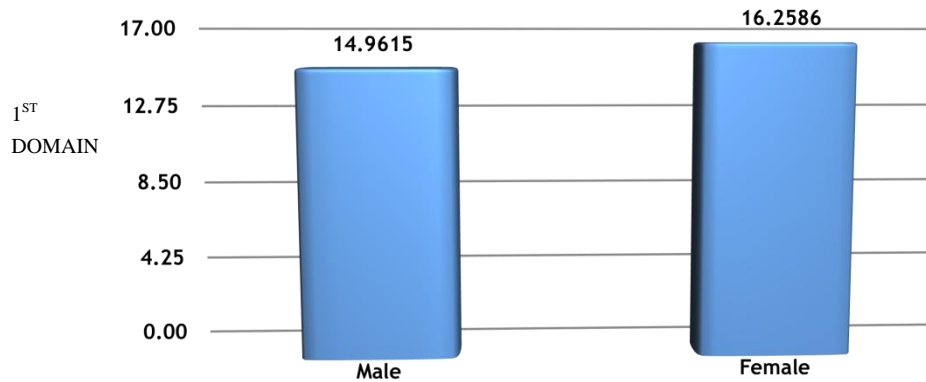


Figure 5. Mean Distribution of 1st Domain Scores as Per Gender

Table 8. Distribution of Second Domain Scores as Per Gender

Gender	2nd domain				
	Mean	Std. Deviation	Mean Difference	t-test value	p-value
Male	33.37	5.81	1.57	1.479	0.142
Female	31.79	5.34			

The mean 2nd domain score was compared between males and females using the unpaired t-test. There was no significant difference in mean 2nd domain score between males and females.

Mean 2nd domain

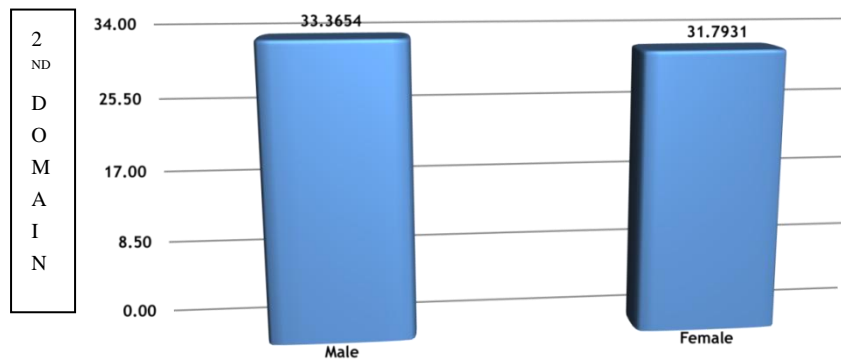


Figure 6. Distribution of Second Domain Scores as Per Gender

Table 9. Distribution of 3rd Domain Scores as Per Gender

Gender	3rd domain				
	Mean	Std. Deviation	Mean Difference	t-test value	p-value
Male	22.31	3.61	-0.18	-0.256	0.799
Female	22.48	3.57			

The mean 3rd domain score was compared between males and females using the unpaired t-test. There was no significant difference in mean 3rd domain score between males and females.

Mean 3rd domain

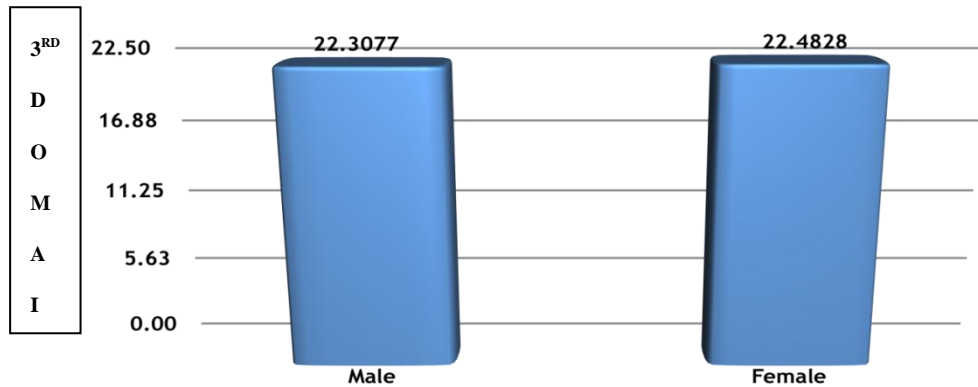


Figure 7. Distribution of 3rd Domain Scores as Per Gender

Table 10. Distribution of 4th Domain Scores as Per Gender

Gender	4th domain				
	Mean	Std. Deviation	Mean Difference	t-test value	p-value
Male	25.63	3.86	0.24	0.333	0.740
Female	25.40	3.64			

The mean 4th domain score was compared between males and females using the unpaired t-test. There was no significant difference in mean 4th domain score between males and females.

Mean 4th domain

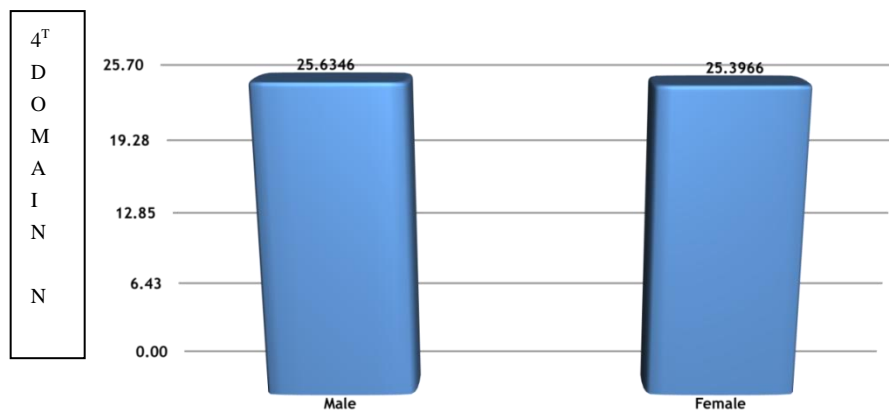
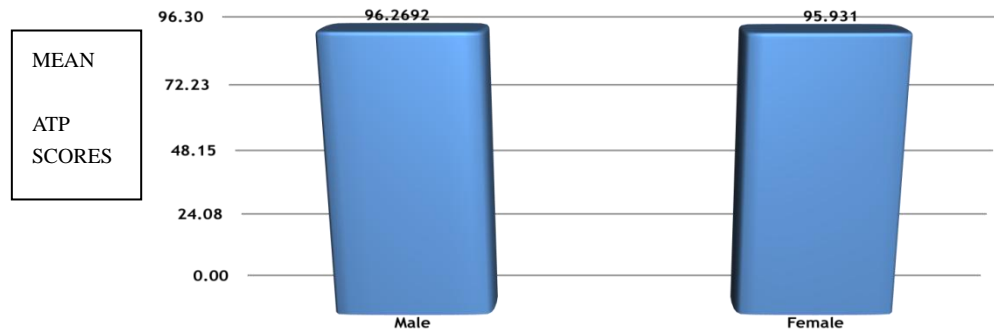


Figure 8. Distribution of 4th Domain Scores as Per Gender

Table 11. Distribution of ATP Scores According to Gender

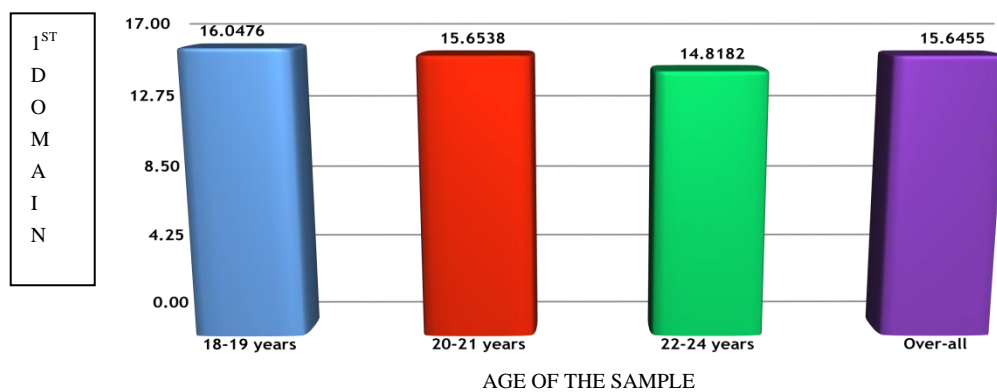
Gender	ATP-30				
	Mean	Std. Deviation	Mean Difference	t-test value	p-value
Male	96.27	11.54	0.34	0.161	0.872
Female	95.93	10.46			

The mean ATP-30 score was compared between males and females using the unpaired t-test. There was no significant difference in mean ATP-30 score between males and females.

Mean ATP-30 score**Figure 9.** Distribution of ATP Scores According to Gender**Table 12.** Distribution of first domain scores as per age

	1st domain				
	Mean	Std. Deviation	F-value	p-value	Post-hoc comparisons
18-19 years	16.05	2.42	1.011	0.367	N/A
20-21 years	15.65	2.27			
22-24 years	14.82	2.52			
Over-all	15.65	2.32			

The mean 1st domain score was compared between 18-19 years, 20-21 years and 22-24 years age groups using the One-way ANOVA test with post-hoc bonferroni test. There was no significant difference in mean 1st domain score between 18-19 years, 20-21 years and 22-24 years age groups.

Mean 1st domain**Figure 10.** Distribution of first domain scores as per age**Table 13.** Distribution of ATP scores on second domain as per age

	2nd domain				
	Mean	Std. Deviation	F-value	p-value	Post-hoc comparisons
18-19 years	31.95	5.91	0.142	0.868	N/A
20-21 years	32.69	5.49			
22-24 years	32.55	6.20			
Over-all	32.54	5.60			

The mean 2nd domain score was compared between 18-19 years, 20-21 years and 22-24 years age groups using the One-way ANOVA test with post-hoc bonferroni test. There was no significant difference in mean 1st domain score between 18-19 years, 20-21 years and 22-24 years age groups.

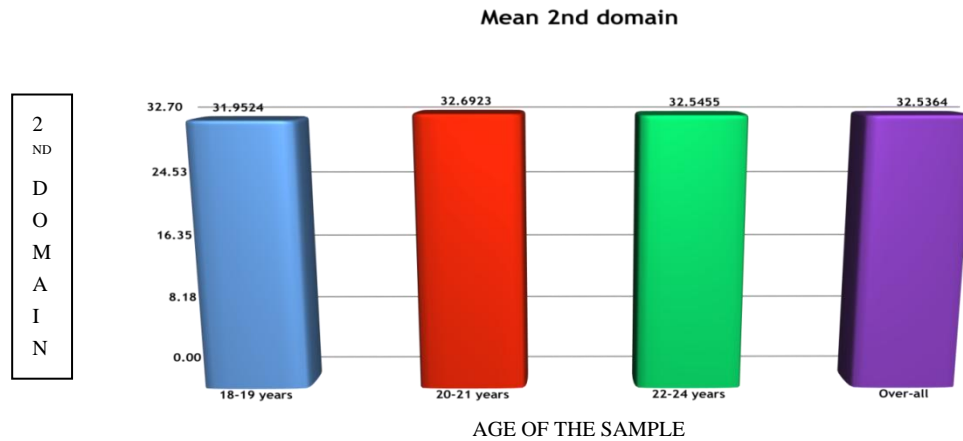


Figure 11. Distribution of ATP scores on second domain as per age

Table 14. Distribution of 3rd domain scores as per age

	3rd domain				
	Mean	Std. Deviation	F-value	p-value	Post-hoc comparisons
18-19 years	22.05	3.22	0.125	0.883	N/A
20-21 years	22.49	3.80			
22-24 years	22.45	2.62			
Over-all	22.40	3.57			

The mean 3rd domain score was compared between 18-19 years, 20-21 years and 22-24 years age groups using the One-way ANOVA test with post-hoc bonferroni test. There was no significant difference between age groups.

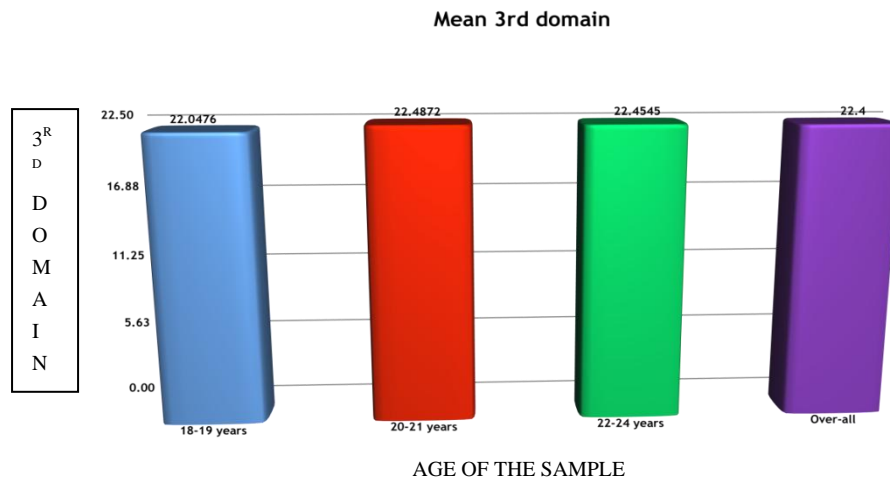


Figure 12. Distribution of 3rd domain scores as per age

Table 15. Distribution of 4th domain ATP scores as per age

	4th domain				
	Mean	Std. Deviation	F-value	p-value	Post-hoc comparisons
18-19 years	24.48	3.63	1.525	0.222	N/A
20-21 years	25.60	3.76			
22-24 years	26.82	3.46			
Over-all	25.51	3.73			

The mean 4th domain score was compared between 18-19 years, 20-21 years and 22-24 years age groups using the One-way ANOVA test with post-hoc bonferroni test. There was no significant difference in mean 1st domain score between 18-19 years, 20-21 years and 22-24 years age groups.

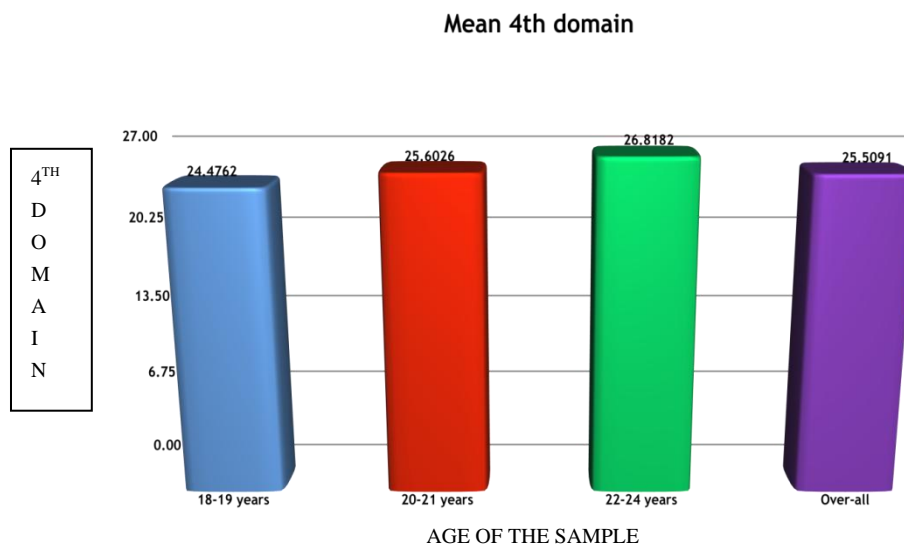


Figure 13. Distribution of 4th domain ATP scores as per age

7. Discussion

The present study was designed to know the attitude of second-year medical students toward psychiatry as a specialty and career option. Nearly 63.6% of second year medical students had positive attitude toward psychiatry (chi-square value = 0.313, $p=0.855$).

Only 22.7% second-year students affirmatively indicated to choose psychiatry as a career choice while 24.5% denied choosing psychiatry as a speciality and 52.7% had neutral attitude toward choosing psychiatry [table 2]. The students agree that psychiatry is a respected branch of medicine and that the practice of psychiatry allows the development of really rewarding relationships with people.

We found that the students showed positive attitude toward psychiatric patients and psychiatric illness and they all agree that psychiatric patients are just as human as other people and they deserve atleast as much attention as physical illness. Moreover, the positive attitude was significantly more among females compared to males. [table 7]

In the area of psychiatric knowledge and teaching, the students agree that psychiatry is the most important part of the curriculum in medical college, it helps them better understanding the medical and surgical patients and that their psychiatric undergraduate training has been valuable.

Further in the area of psychiatric treatment and hospitals for analysis, the students showed positive attitude and agreed that psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill, psychiatric treatment has become quite effective now and psychotherapy is effective. The students disagreed that the practice of psychotherapy is fraudulent.

Despite all the stigma towards psychiatry our students had more positive attitude toward psychiatry. A good number of

students gave “neutral” response to most of the items of ATP-30. This is expected to happen when the respondents have little knowledge about the topic of interest. This is likely the case with our students who have not been exposed to any psychiatric lecture and posting yet. It is likely that the students may be ambivalent to the various domains of the ATP-30.

Like any other study, there are some limitations of this study including small sample size and it included medical students of single institution only. The study participants were aware of our area of interest, which could have influenced some of the responses.

8. Conclusions

The study sheds light on the positive attitude towards Psychiatry by second year medical students. the domains for acceptance of psychiatric illness as a medical disorder and treating it likewise was found significantly more in the female students.

REFERENCES

- [1] Pincus HA. The crisis in psychiatry [correspondence]. *Lancet* (1997) 349:965. doi:10.1016/S0140-6736(05)62124-1.
- [2] Psychiatry's identity crisis [editorial]. *Lancet* (2012) 379:1274. doi:10.1016/S0140-6736(12)60540-6.
- [3] Barkil-Oteo A. Psychiatry's identity crisis [correspondence]. *Lancet* (2012) 379:2428. doi:10.1016/S0140-6736(12)61067-8.
- [4] Katschnig H. Are psychiatrists an endangered species?

- Observations on internal and external challenges to the profession. *World Psychiatry* (2010) 9:21–8. doi:10.1002/j.2051-5545.2010.tb00257.x.
- [5] Vigo D, Thornicroft G, Atun R. Estimating the true global burden of mental illness. *Lancet* (2016) 3:171–8. doi:10.1016/S2215-0366(15)00505-2.
 - [6] Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med* (2006) 3:20. doi:10.1371/journal.pmed.0030442.
 - [7] WHO. editor. The European Mental Health Action Plan. Çeşme Izmir, Turkey Copenhagen: World Health Organization, Regional Office for Europe (2013).
 - [8] Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *Lancet* (2013) 382:1575–86. doi:10.1016/S0140-6736(13)61611-6.
 - [9] Riedel M, Czypionka T, Röhrling G, Kalmar M. Abschätzung des zukünftigen Bedarfs an Psychiatern in Österreich. Studie im Auftrag und in Kooperation mit der Österreichischen Gesellschaft für Neuropsychopharmakologie und Biologische Psychiatrie (ÖGPB). [Estimating the future need for psychiatrists in Austria. Study on behalf of and in cooperation with the society 'Österreichischen Gesellschaft für Neuropsychopharmakologie und Biologische Psychiatrie (ÖGPB).'] [Report in German]. Wien: Institut für Höhere Studien (IHS) [Institute for Advanced Studies] (2011).
 - [10] Buddeberg-Fischer B, Klaghofer R, Buddeberg C. Die Motivation zur Weiterbildung in Psychiatrie und Psychotherapie: eine Untersuchung bei jungen Ärztinnen und Ärzten in der Deutschschweiz. [Young doctors' motivations for choosing psychiatry as specialty qualification in German-speaking Switzerland.] [Article in German]. *Schweiz Arch Neurol Psychiatr* (2008) 159:34–41.
 - [11] Bitter I, Kurimay T. State of psychiatry in Hungary. *Int Rev Psychiatry* (2012) 24:307–13. doi:10.3109/09540261.2012.694856.
 - [12] WHO. mhGAP. Mental Health Gap Action Programme. Scaling Up Care for Mental, Neurological, and Substance Use Disorders. Geneva: World Health Organization (2008).
 - [13] Landolt K, Giacometti-Bickel G, Bernath C, Rössler W. Möglichkeiten und Grenzen der Bedarfsschätzung in der ambulanten Psychiatrie. [Predicting.
 - [14] Lyons Z. Attitudes of medical students toward psychiatry and psychiatry as a career: a systematic review. *Acad Psychiatry* (2013) 37:150–7. doi: 10.1176/appi.ap.11110204.
 - [15] Sartorius N, Gaebel W, Cleveland H-R, 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. doi:10.1002/j.2051-5545.2010.tb00296.x.
 - [16] Farooq K, Lydall GJ, Bhugra D. What attracts medical students towards psychiatry? A review of factors before and during medical school. *Int Rev Psychiatry* (2013) 25:371–7. doi:10.3109/09540261.2013.823855.
 - [17] Strebel B, Obladen M, Lehmann E, Gaebel W. Einstellungen von Studierenden der Medizin zur Psychiatrie. Eine Untersuchung mit einer in das Deutsche übersetzten, erweiterten Version des ATP-30. [Attitude of medical students to psychiatry. A study with the German translated, expanded version of the ATP-30.] [Article in German]. *Nervenarzt* (2000) 71:205–12.
 - [18] Zwerenz R, Barthel Y, Leuzinger-Bohleber M, Gieler U, Rudolf G, Schwarz R, et al. Attitudes of medical students towards psychotherapeutic treatment and training. *Z Psychosom Med Psychother* (2007) 53:258–72. doi:10.13109/zptm.2007.53.3.258.
 - [19] Kuhnigk O, Hofmann M, Böthern AM, Haufs C, Bullinger M, Harendza S. Influence of educational programs on attitudes of medical students towards psychiatry: effects of psychiatric experience, gender, and personality dimensions. *Med Teach* (2009) 31:e303–10. doi: 10.1080/01421590802638048.
 - [20] Kuhnigk O, Strebel B, Schilauke J, Jueptner M. Attitudes of medical students towards psychiatry: effects of training, courses in psychiatry, psychiatric experience and gender. *Adv Health Sci Educ Theory Pract* (2007) 12:87–101. doi:10.1007/s10459-005-5045-7.
 - [21] Baller FA, Ludwig KV, Kinas-Gnadt Olivares CL, Graef-Calliess IT. Exploring the ideas and expectations of German medical students towards career choices and the speciality of psychiatry. *Int Rev Psychiatry* (2013) 25:425–30. doi:10.3109/09540261.2013.823384.
 - [22] Halder N, Hadjidemetriou C, Pearson R, Farooq K, Lydall GJ, Malik A, et al. Student career choice in psychiatry: findings from 18 UK medical schools. *Int Rev Psychiatry* (2013) 25:438–44. doi:10.3109/09540261.2013.824414.
 - [23] Aslam M, Taj T, Ali A, Badar N, Saeed F, Abbas M, et al. Psychiatry as a career: a survey of factors affecting students' interest in psychiatry as a career. *McGill J Med* (2009) 12:7–12.
 - [24] Mortlock A-M, Puzzo I, Taylor S, Kumari V, Young S, Sengupta S, et al. Enrichment activities in the medical school psychiatry programme—could this be a key to engaging medical students in psychiatry? A study from a high secure forensic psychiatric hospital. *BMC Psychiatry* (2017) 17:83. doi:10.1186/s12888-017-1236-z.
 - [25] O'Connor K, Brennan D, O'Loughlin K, Wilson L, Pillay D, Clarke M, et al. Attitudes towards patients with mental illness in Irish medical students. *Ir J Med Sci* (2013) 182:679–85. doi:10.1007/s11845-013-0955-5.
 - [26] Barkil-Oteo A. Psychiatry's identity crisis. *Lancet* 2012; 379: 2428.
 - [27] 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.
 - [28] Cutler JL, Harding KJ, Mozian SA, Wright LL, Pica AG, Masters SR, et al. Discrediting the notion "working with 'crazies' will make you 'crazy'": Addressing stigma and enhancing empathy in medical student education. *Adv Health Sci Educ Theory Pract* 2009;14:487-502.
 - [29] Chawla JM, Balhara YP, Sagar R, Shivaprakash. Undergraduate medical students' attitude toward psychiatry: A cross-sectional study. *Indian J Psychiatry* 2012;54:37-40.
 - [30] Bagcchi S. Rethinking India's psychiatric care. *Lancet Psychiatry* 2014;1:503-4.

- [31] Tharyan P, John T, Tharyan A, Braganza D. Attitude of 'tomorrow's doctors' toward psychiatry and mental illness. *Natl Med J India* 2001;14:355-9.
- [32] 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.
- [33] Abdul-Rahim, El-Assra. Attitude of Arabian Gulf University medical students toward psychiatry. *Educ Health* 2002; 15: 180-8.
- [34] Pailhez G, Bulbena A, Coll J, Ros S, Balon R. Attitudes and views on psychiatry: A comparison between Spanish and U.S. medical students. *Acad Psychiatry* 2005;29:82-91.
- [35] 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.
- [36] Byrne P. Stigma of mental illness. Changing minds, changing behaviour. *Br J Psychiatry* 1999;174:1-2.
- [37] Rich CL, Pitts FN Jr. Suicide by psychiatrists: A study of medical specialists among 18,730 consecutive physician deaths during a five- year period, 1967-72. *J Clin Psychiatry* 1980;41:261-3.