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Original Research Article

Effect of clinical rotation on attitude of medical students towards psychiatry and mental patients: a cross-sectional study from Western Rajasthan

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ABSTRACT

Background: People with mental illnesses experience extreme stigmatization and discrimination despite their ubiquitous presentation. Studies have reported that these negative stereotypes are shared by health care professionals too. Attitude of undergraduate medical students towards psychiatry is vital as it reflects their willingness to deal with psychiatric and behavioral disorders in general practice.
Methods: A descriptive cross-sectional study was conducted in a government medical college in Rajasthan to explore the impact of sociodemographic variables and undergraduate psychiatry training on the attitude of medical students towards mental illness and psychiatry. 105 first year MBBS students and 75 interns participated in the study. Attitude towards mental illness (AMI) scale and attitude towards psychiatry-30 (ATP-30) scale were used to document AMI and ATP respectively. Data collected were analyzed using SPSS statistical software and appropriate tests were used to compare mean scores of both groups.
Results: There was no statistically significant difference on AMI and ATP scores between the undergraduate medical students and interns. Females, students belonging to urban setting and more educated families had a favorable attitude towards psychiatric patients. A notable shift in scores on ATP scale towards positive side was reflected between male MBBS students and interns and among students coming from rural background with exposure to medical curriculum.
Conclusions: No attitude change was observed in majority of participants indicating need for greater emphasis on mental health and psychiatry.

Keywords: Attitude, Interns, Medical students, Mental illness, Psychiatry

INTRODUCTION

Psychiatric disorders are ubiquitous and can affect anyone, regardless of their age, gender, race or social status. According to WHO, 450 million people suffer from mental or behavioral disorder of one kind or another and these conditions are responsible for 13% of disability adjusted life years (DALYs) worldwide.[1] A similar scenario is encountered in India with 13.7% of surveyed population from 12 states estimated to experience mental disorders at some point in their life.[2] Despite the magnitude of problem, around 80% of psychiatric patients failed to receive any help even after one year of illness.[2]

This major treatment gap is apparently attributed to the extreme stigmatization and discrimination of people with mental illnesses.[3] There is a negative attitude towards

mentally ill people in the society. It is widely believed that they are incompetent, dangerous and violent and are responsible for their psychiatric condition themselves and therefore, are not suitable to live in the community.[4-7] The exclusion suffered by these individuals undermine their quality of life, worsens their psychosocial dysfunction and the chances of recovery.[3,8] Studies show that stigma towards people with mental illness leads to loss of job opportunities, housing facilities and social relationships.[3] This in turn discourages the other people suffering from similar problems to seek professional help.

The negative stereotypes of general public are often shared by the health care professionals, particularly in terms of pessimistic outcomes and desire of social distance.[9-12] Health care professionals are an important group of society as their attitude towards mental illness has a vital role in impacting the quality of life of the patients through their interaction and subsequent management.[13] Patients' reports have suggested that they are being treated with disrespect; have to wait longer than other patients and there is suspicion that physical complaints are imagined.[14] In a multicenter study employing face to face interviews with 777 people with schizophrenia, it was found that more than 17% of the participants experienced discrimination in healthcare with deleterious consequences on their treatment of physical symptoms and their subsequent contact with medical services.[15] Similarly, various surveys conducted worldwide indicate that psychiatric patients have faced unjust by health care staff.[14,16-18]

Among health care professionals, undergraduate medical students are considered to be tomorrow's doctors, as they are going to be involved in the management of these patients either directly or indirectly during the course of their careers.[19] A number of studies have found that medical students view psychiatric patients as dangerous, unpredictable and untreatable; and feel that interacting with them is stressful and emotionally draining.[20-22] This attitude is determined by various factors such as cultural background, parental education, previous experiences, training in medicine and psychiatry. Consequently, the stigma attached to psychiatry not only affects the patient care but also influence students' decision of opting psychiatry as a career.[17,23] This necessitates research which can study the influence of various sociodemographic variables on the minds of young doctors.

Clinical postings form a key component of the teaching structure in medical institutions. During undergraduate education, students may be corrigible through educational intervention and experience gain. They have the opportunity to expand their knowledge about mental illnesses and interact with the patients. While previous studies have shown a positive change of attitude towards mental illnesses and psychiatry following psychiatric rotation, there have been evidences of negative attitude change as well.[19,24-29]

Hence, the current study was planned to explore whether the exposure to psychiatry during clinical rotations improves the attitude towards medical illnesses and psychiatry among undergraduate medical students. It also aimed at investigating the impact of cultural background, parental education and past experience with psychiatric illnesses on the perception of medical students towards mental illness.

METHODS

Study design (sample and technique)

The study was conducted in a Dr. S. N. medical college, Jodhpur in Rajasthan where MBBS (bachelor of medicine and bachelor of surgery) curriculum included two weeks of psychiatry clinical postings during fourth and sixth semester. The students were taught various aspects such as history taking, mental status examination, investigations and treatment of the common psychiatric conditions, theoretically as well as clinically. A ward leaving examination was conducted at the end of these postings. During the internship, students were posted for 15 days in psychiatry where they attended daily rounds of indoor patients and observed outdoor patients with a consultant.

This was a descriptive cross-sectional questionnaire based study. It surveyed a small convenience sample of undergraduate (UG) students, who had just entered the medical school and interns, who had completed their two week clinical rotation in psychiatry.

First year MBBS students were approached in their lecture theatre and were distributed the questionnaires. Out of 122 students, 105 completed the questionnaire. Intern students were asked individually to fill the questionnaires on the last day of their psychiatry posting. Out of 97 students posted in the 1 year study period, 75 gave consent for the study.

Students were explained about the nature and purpose of the study, that was, to explore their attitude towards mental illnesses and psychiatry. Informed consent was obtained and participants were assured of confidentiality to ensure sincere responses.

Ethical consideration

Permission for the research was taken from the local ethical committee of the institution, in accordance with the ethical principles enunciated in the 1964 Declaration of Helsinki.[31]

Statistical analysis

Data collected from this survey were analyzed using SPSS (version 22.0) statistical software. Sociodemographic profile of both the groups, namely 1st year MBBS students and interns was compared with Chi-

square test. The mean score for each questionnaire was calculated and the scores of the groups were compared using unpaired Student's t test. P<0.05 was considered as statistically significant.

RESULTS

Out of the 122 first year MBBS students, 105 completed the questionnaire. Seventeen questionnaires were incomplete and therefore eliminated from the study. Mean age of first year students was 18.84 years. The sample comprised of 66 (62.9%) males and 39 (37.1%) females. Among 97 interns posted in psychiatry department, 75 consented to fill the questionnaire, out of which 60% were males and 40% were females. Mean age of interns was 24.52 years. Three fifth of the students came from urban setting and rest belonged to rural locality in both the groups. Parents of 37.1% UG students were educated up to secondary level whereas parents of 62.9% students held higher degrees. 29.3% interns' parents were educated upto secondary school level and parents of the remaining interns were educated beyond secondary. The sociodemographic profile of first year MBBS students was comparable with the interns and no statistically significant differences were observed between the two groups except age (Table 1).

Table 1: Comparison of sociodemograhic variables among first year medicos and interns.

S. No.	Variables		1st year MBBS students (n=105)	Interns (n=75)	P value
			f (%)	f (%)	
1.	Mean age		18.84±1.34	24.52±2.19	<0.0001
2.	Gender	Males	66 (62.9)	45 (60.0)	0.697
		Females	39 (37.1)	30 (40.0)	
3.	Residence	Urban	60 (57.1)	46 (61.3)	0.573
		Rural	45 (42.9)	29 (38.7)	
4.	Family history	Negative	100 (95.2)	68 (90.7)	0.225
		Positive	5 (4.8)	7 (9.3)	
5.	Drug addiction	Absent	100 (95.2)	67 (89.3)	0.131
		Present	5 (4.8)	8 (10.7)	
6.	Parental education	Up to secondary	39 (37.1)	22 (29.3)	0.275
		Beyond secondary	66 (62.9)	53 (70.7)	

Abbreviations: n=sample size, f=frequency, %=percentage.

Table 2: AMI and ATP scores of study population (n=180).

Parameters	1st year MBBS students (n=105)	Intern (n=75)	P value
	Mean±SD	Mean±SD	
AMI score	59.46±6.36	60.33±6.11	0.361
ATP score	102.66±12.07	105.20±11.07	0.150

Abbreviations: SD=standard deviation, AMI=attitude towards mental illness, ATP=attitude towards psychiatry.

Table 3: API and AMI scores of first year medical students (n=105) in relation to socio-demographic variables.

Variables		AMI score	ATP score
		Mean±SD	Mean±SD
Gender	Males (n=66)	57.54±5.04	98.59±10.15
	Females (n=39)	62.71±7.06	109.56±11.86
	P value	<0.0001	<0.0001
Residence	Urban (n=60)	60.98±6.59	105.66±12.74
	Rural (n=45)	57.44±5.47	98.66±9.71
	P value	0.004	0.002
Family history	Negative (n=100)	59.37±6.42	102.89±12.17
	Positive (n=05)	61.4±5.17	98.2±7.19
	P value	0.488	0.396
Drug addiction	Absent (n=103)	59.44±6.40	102.82±12.06
	Present (n=02)	60.5±4.95	94.5±3.53
	P value	0.817	0.333
Parental Education	Up to secondary (n=39)	57.97±4.44	99.61±11.25

Continued.

Variables		AMI score	ATP score
	Beyond secondary (n=66)	60.34±7.15	104.46±12.5
	P value	0.064	0.048

Table 4: API and AMI scores of interns (n=75) in relation to sociodemographic variables.

Variables		AMI score	ATP score
		Mean±SD	Mean±SD
Gender	Males (n=45)	59±5.33	103.6±10.31
	Females (n=30)	62.33±6.74	107.6±11.71
	P value	0.019	0.123
Residence	Urban (n=46)	61.58±6.13	105.28±10.78
	Rural (n=29)	58.34±5.31	105.06±11.52
	P value	0.024	0.935
Family history	Negative (n=68)	60.72±5.79	105.58±11.24
	Positive (n=07)	56.57±8.26	101.42±7.89
	P value	0.087	0.344
Drug addiction	Absent (n=67)	60.68±6.28	106.08±10.65
	Present (n=08)	57.37±3.46	97.75±11.78
	P value	0.149	0.041
Parental education	Up to secondary (n=22)	58.77±3.67	101.59±9.97
	Beyond secondary (n=53)	60.98±6.80	106.69±11.14
	P value	0.151	0.068

Table 5: Comparison of AMI scores of first year medical students and interns in context with sociodemographic parameters.

Parameters		AMI score		P value
		1st MBBS group	Intern group	
		Mean±SD	Mean±SD	
Gender	Female	62.71±7.06	62.33±6.74	0.819
	Male	57.54±5.04	59±5.33	0.148
Residence	Urban	60.98±6.59	61.58±6.31	0.635
	Rural	57.44±5.47	58.34±5.31	0.487
Family history	Positive	61.4±5.17	56.57±8.26	0.278
	Negative	59.37±6.42	60.72±5.79	0.166
Drug addiction	Absent	59.44±6.40	60.68±6.28	0.215
	Present	60.5±4.95	57.37±3.46	0.314
Parental education	Up to secondary	57.97±4.44	58.77±3.67	0.477
	Beyond secondary	60.34±7.15	60.98±6.80	0.621

Table 6: Comparison of ATP scores of first year medical students and interns in context with sociodemographic parameters.

Parameters		ATP score		P value
		1st MBBS group	Intern group	
		Mean±SD	Mean±SD	
Gender	Female	109.56±11.86	107.6±11.71	0.495
	Male	98.59±10.15	103.6±10.31	0.012
Residence	Urban	105.66±12.74	105.28±10.78	0.869
	Rural	98.66±9.71	105.06±11.52	0.012
Family history	Positive	98.2±7.19	101.42±7.89	0.485
	Negative	102.89±12.17	105.58±11.24	0.148
Drug addiction	Absent	102.82±12.06	106.08±10.65	0.073
	Present	94.5±3.53	97.75±11.78	0.720
Parental Education	Up to secondary	99.61±11.25	101.59±9.97	0.496
	Beyond secondary	104.46±12.15	106.69±11.14	0.304

The analysis of the two groups wholly show that first year MBBS students had almost neutral attitude towards mental illness with a mean score of 59.46 on AMI scale (neutral score=60).[19] They had favorable ATP with a mean score of 102.66 on ATP scale (neutral score=90).[30] Interns showed similar attitude as the MBBS students with mean scores of 60.33 and 105.20 on AMI and ATP scales, respectively. There was no significant difference observed between the groups (AMI: p=0.361, ATP: p=0.150) (Table 2).

Among the first year medical students, females showed significantly favorable attitude towards psychiatry and mental illnesses than males (p<0.0001). A more positive attitude with significant difference was observed towards mental illness and psychiatry among students belonging to urban setting than those from rural background (AMI: p=0.004, ATP: p=0.002). Students with a positive history of psychiatric illness and personal history of drug addiction did not show significantly different attitude from students without family history of mental illness and personal history of drug addiction. Mean score of AMI did not show significant difference in students grouped on the basis of parental education either. However, children of parents educated beyond secondary were found to have significantly more favorable mean score on ATP scale than children of parents educated upto secondary school level (p=0.048) (Table 3).

Table 4 shows notably positive attitude towards mental illness among female interns (mean score on AMI=62.33, p=0.019) and interns from urban background (mean score on AMI=61.58, p=0.024). Drug addiction also had an effect on attitude towards psychiatry among interns. Interns with a history of drug addiction had a neutral attitude as compared to interns without drug addiction history. The difference was statistically significant.

First year MBBS students and interns had similar scores on both AMI and ATP scales when compared on the basis of gender, residence, family history of psychiatric illness, personal history of drug addiction and parental education. However, notable shift in scores on ATP scale towards positive side was reflected between male MBBS students and interns, and among students coming from rural background with exposure to medical curriculum (1st year MBBS versus intern males=98.59±10.15 versus 103.6±10.31, p=0.012; 1st year MBBS versus intern rural=98.66±9.71 versus 105.06±11.52, p=0.012) (Tables 5 and 6).

DISCUSSION

Psychiatric and behavioral disorders were ubiquitous and in spite of their global prevalence, a major section of society was not receiving appropriate treatment. This treatment gap was attributed to a variety of factors, predominantly discrimination and stigmatization faced by psychiatric patients across the globe. Lots of surveys have shown that doctors endorse similar stereotypical views and prejudices towards mentally ill patients. This had grossly affected patient care.

Keeping these issues in mind, we conducted a cross-sectional study in a government medical college in Rajasthan to assess whether exposure to psychiatry during clinical postings cause attitudinal change among medical students. Impact of gender, cultural background, parental education and past experience with mental illness on perception of medicos towards psychiatry was also investigated using standardized scales. First year MBBS students and interns were asked to participate in this questionnaire based survey.

On cross-sectional analysis, it was found that students had a neutral or positive attitude towards most of the aspects of mental illness and psychiatry. However, overall attitude did not differ significantly among students before and after psychiatry rotation, keeping with the finding from some recent studies done in Israel, United States and India.[28,32-34] This was in contrast with earlier studies which concluded that psychiatric posting may employ a substantial influence on shaping positive attitudes towards psychiatry. Medical students from Malaysia and Greece reflected a favorable attitudinal change after a few weeks of clinical postings.[24,35] In a study from Bahrain, attitude of medical students towards psychiatry was moderately positive at the commencement of their undergraduate course, which shifted to negative side after theoretical and clinical teaching in seventh year.[36] Review of literature had shown that although a positive change occurs in students' attitude towards psychiatry over the duration of psychiatric posting, this change may be transient rather than enduring.[19,30]

Like the Arabian Gulf University students, where females had more favorable attitudes than their male counterparts, this study also exhibited similar results.[36] In the separate studies by Tan et al in Malaysia and Nigeria respectively, a more positive attitude was observed in males when compared to female students.[35,37] Nevertheless, no gender differences in the attitude towards mental illness have been displayed by several researches.[38,39] When considering relationship between attitude towards psychiatry and residence of the students, more liberal attitude was seen among those residing in urban areas exhibiting concordance with the study done by Gureje et al in Nigeria.[37]

Similarly, in our attempt to analyze whether family history of mental illness had any significant effect on the medical student's attitude towards psychiatry revealed a less favorable attitude of students having a relative suffering from psychiatric conditions. However, certain studies clearly show disparity from our conclusions reflecting more positive attitudinal scores among students with past experience of mental illnesses.[35,40] The study also tried to examine the relation of students' attitude with their drug addiction history and parental education, but no significant correlation was observed.

The group comparison of AMI and ATP scores has not shown gross difference on the sociodemographic variables. The attention was focused on ATP scores of both groups showing significant difference on sex and residence. There was a notable positive shift of attitude among males and students coming from rural background with exposure to psychiatry training.

Our study was limited by its small sample size which was further compromised by low response rate (first year 105/122 and Interns 75/97). Furthermore, the current study covered participants from one institute only, which prevented the study generalizability. Multi-centric studies were thus required to explore the impact of current psychiatry training across various colleges. In addition, it was a cross-sectional survey where different sample groups were recruited and compared for their perception. A long term follow up study employing a single group should be planned to assess the attitude and ascertain the importance of undergraduate education in psychiatry. None of the individuals reported having positive personal history of psychiatric illness which appeared to be doubtful in a sample of 180 students.

CONCLUSION

Psychiatry training did not appear to grossly influence the attitude of medical students towards mentally ill patients and psychiatry as reflected by neutral or positive scores on the AMI and ATP. A plausible explanation could be psychiatry finding backseat in the MBBS curriculum with just 30 days of posting during undergraduate course and 15 days of clinical rotation during internship. In our opinion, adequate modification to the existing medical curriculum and internship schedule and inclusion of psychiatry as a separate section in general medicine exam paper might help in bringing the anticipated change in attitude. A positive attitude might encourage more and more medical graduates to opt for psychiatry as a career, hence, filling up the available psychiatry specialist positions in our country. The study demonstrated positive shift toward psychiatry and mental illness among males and those belonging to rural areas with exposure to mental health setting during the MBBS course, which has enriched the existing literature.

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REFERENCES

1. The World Health Report: Mental Health: New Understanding, New Hope. Geneva: World Health Organization; 2001.
2. Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK, et al. National mental health survey of India, 2015-16: Summary. Bengaluru: National Institute of Mental Health and Neurosciences; 2016.
3. Rüsch N, Angermeyer MC, Corrigan PW. Mental illness stigma: concepts, consequences, and initiatives to reduce stigma. Eur Psychiatry. 2005;20(8):529-39.
4. Corrigan PW. On the stigma of mental illness: Practical strategies for research and social change. Am Psychol Assoc. 2005.
5. Link BG, Phelan JC, Bresnahan M, Stueve A, Pescosolido BA. Public conceptions of mental illness: labels, causes, dangerousness, and social distance. Am J Public Health. 1999;89(9):1328-33.
6. Loganathan S, Murthy SR. Experiences of stigma and discrimination endured by people suffering from schizophrenia. Indian J Psychiatry. 2008;50(1):39.
7. Thara R, Srinivasan TN. How stigmatising is schizophrenia in India? Int J Soc Psychiatry. 2000;46(2):135-41.
8. Schmitt MT, Branscombe NR, Postmes T, Garcia A. The consequences of perceived discrimination for psychological well-being: a meta-analytic review. Psychol Bull. 2014;140(4):921.
9. Henderson C, Noblett J, Parke H, Clement S, Caffrey A, Gale-Grant O, et al. Mental health-related stigma in health care and mental health-care settings. Lancet Psychiatry. 2014;1(6):467-82.
10. Lauber C, Nordt C, Falcato L, Rössler W. Factors influencing social distance toward people with mental illness. Community Ment Health J. 2004;40(3):265-74.
11. Schulze B. Stigma and mental health professionals: a review of the evidence on an intricate relationship. Int Rev Psychiatry. 2007;19(2):137-55.
12. Wahl O, Aroesty-Cohen E. Attitudes of mental health professionals about mental illness: a review of the recent literature. J Community Psychol. 2010;38(1):49-62.
13. Office of the Surgeon General (US), Center for Mental Health Services (US), National Institute of Mental Health (US). Mental health: culture, race, and ethnicity. a supplement to mental health: a report of the surgeon general. Rockville: Substance Abuse and Mental Health Services Administration (US); 2001.
14. Schulze B, Angermeyer MC. Subjective experiences of stigma. A focus group study of schizophrenic patients, their relatives and mental health professionals. Soc Sci Med. 2003;56(2):299-312.
15. Harangozo J, Reneses B, Brohan E, Sebes J, Csukly G, Lopez-Ibor JJ, et al. Stigma and discrimination

against people with schizophrenia related to medical services. Int J Soc Psychiatry. 2014;60(4):359-66.
16. Adewuya AO, Oguntade AA. Doctors' attitude towards people with mental illness in Western Nigeria. Soc Psychiatry Psychiatr Epidemiol. 2007;42(11):931-6.
17. Ay P, Save D, Fidanoglu O. Does stigma concerning mental disorders differ through medical education? Soc Psychiatry Psychiatr Epidemiol. 2006;41(1):63-7.
18. Naeem F, Ayub M, Javed Z, Irfan M, Haral F, Kingdon D. Stigma and psychiatric illness. A survey of attitude of medical students and doctors in Lahore, Pakistan. J Ayub Med Coll Abbottabad. 2006;18(3):46-9.
19. Singh SP, Baxter H, Standen P, Duggan C. Changing the attitudes oftomorrow's doctors' towards mental illness and psychiatry: a comparison of two teaching methods. Med Educ. 1998;32(2):115-20.
20. Curtis-Barton MT, Eagles JM. Factors that discourage medical students from pursuing a career in psychiatry. Psychiatrist. 2011;35(11):425-9.
21. Korszun A, Dinos S, Ahmed K, Bhui K. Medical student attitudes about mental illness: does medical-school education reduce stigma? Acad Psychiatry. 2012;36(3):197-204.
22. 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(6):424-9.
23. Dixon RP, Roberts LM, Lawrie S, Jones LA, Humphreys MS. Medical students' attitudes to psychiatric illness in primary care. Med Educ. 2008;42(11):1080-7.
24. Economou M, Kontoangelos K, Peppou LE, Arvaniti A, Samakouri M, Douzenis A, et al. Medical students' attitudes to mental illnesses and to psychiatry before and after the psychiatric clerkship: training in a specialty and a general hospital. Psychiatry Res. 2017;258:108-15.
25. Lyons Z, Janca A. Impact of a psychiatry clerkship on stigma, attitudes towards psychiatry, and psychiatry as a career choice. BMC Med Educ. 2015;15(1):34.
26. Markström U, Gyllensten AL, Bejerholm U, Björkman T, Brunt D, Hansson L, et al. Attitudes towards mental illness among health care students at Swedish universities-a follow-up study after completed clinical placement. Nurse Educ Today. 2009;29(6):660-5.
27. Yadav T, Arya K, Kataria D, Balhara YP. Impact of psychiatric education and training on attitude of medical students towards mentally ill: A comparative analysis. Ind Psychiatry J. 2012;21(1):22.
28. Fischel T, Manna H, Krivoy A, Lewis M, Weizman A. Does a clerkship in psychiatry contribute to changing medical students' attitudes towards psychiatry? Acad Psychiatry. 2008;32(2):147-50.
29. Economou M, Peppou LE, Louki E, Stefanis CN. Medical students' beliefs and attitudes towards schizophrenia before and after undergraduate psychiatric training in Greece. Psychiatry Clin Neurosci. 2012;66(1):17-25.
30. Burra P, Kalin R, Leichner PW, Waldron JJ, Handforth JR, Jarrett FJ, et al. The ATP 30-a scale for measuring medical students' attitudes to psychiatry. Med Educ. 1982;16(1):31-8.
31. World Medical Association. Declaration of Helsinki. Ethical Principles for Medical Research Involving Human Subjects. 2008.
32. Prathaptharyan TJ, Annatharyan D. Attitudes of 'tomorrow's doctors' towards psychiatry and mental illness. Natl Med J India. 2001;14:355-9.
33. Gulati P, Das S, Chavan BS. Impact of psychiatry training on attitude of medical students toward mental illness and psychiatry. Indian J Psychiatry. 2014;56(3):271.
34. Rajagopalan M, Kuruvilla K. Medical students' attitudes towards psychiatry: effect of a two week posting. Indian J Psychiatry. 1994;36(4):177.
35. Tan SM, Azmi MT, Reddy JP, Shaharom MH, Rosdinom R, Maniam T, et al. Does clinical exposure to patients in medical school affect trainee doctors' attitudes towards mental disorders and patients?-a pilot study. Med J Malaysia. 2005;60(3):328.
36. Al-Ansari A, Alsadadi AA. Attitude of Arabian Gulf University medical students towards psychiatry. Educ Health (Abingdon). 2002;15(2):180-8.
37. Gureje O, Lasebikan VO, Ephraim-Oluwanuga O, Olley BO, Kola L. Community study of knowledge of and attitude to mental illness in Nigeria. Br J Psychiatry. 2005;186(5):436-41.
38. Desai ND, Chavda PD. Attitudes of undergraduate medical students toward mental illnesses and psychiatry. J Educ Health Promot. 2018;7:50.
39. Mahto RK, Verma PK, Verma AN, Singh AR, Chaudhury S, Shantna K. Students' perception about mental illness. Ind Psychiatry J. 2009;18(2):92.
40. Roberts LM, Wiskin C, Roalfe A. Effects of exposure to mental illness in role-play on undergraduate student attitudes. Fam Med. 2008;40(7):477-83.

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