

Comparison of Active versus Passive Learning Methods in the Modification of Attitude towards Psychiatry in Undergraduate Medical Students

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ABSTRACT

BACKGROUND

Mental health is often neglected by medical professionals. Negative attitudes towards mental illness and the field of psychiatry are widespread in the medical fraternity. We wanted to compare the different teaching methods and their effectiveness in changing the attitude of students towards the field of psychiatry, assess the preferences of the students regarding teaching methods and evaluate their association with the changes in attitude towards psychiatry.

METHODS

This study is a quasi-experimental study conducted from February 2019 to March 2019 and targeted 44 students of 2nd year MBBS posted in the Department of Psychiatry, Kanachur Institute of Medical Sciences. Two batches of students were assessed at baseline using the Attitude to Psychiatry scale (ATP-30). The batches were then divided into a control and an experimental group. The control group was taught using small group lectures, whereas the experimental group was taught using active learning methods. At the end of 1 week, the ATP-30 and a feedback questionnaire was administered to both groups.

RESULTS

The experimental group had significantly higher scores compared to baseline whereas the control group scored slightly lesser. Statistically significant difference in the feedback scores was found between the two groups, with the experimental group giving a more positive feedback regarding the teaching method compared to the control group. A statistically significant positive correlation was detected between the mean total feedback score and the change in attitude towards psychiatry as per the overall score.

CONCLUSIONS

Active teaching methods brought about a positive change in the attitude of the students towards psychiatry. A positive feedback about active learning was seen and a positive correlation was found between the feedback scores and the change in attitude. Preferences of the students and their reaction to the teaching methods play a role in modifying the attitude towards psychiatry and mental illness. However, the positive change in attitude may be transient and needs to be monitored over a longer duration to observe if the change in attitude is sustained.

KEYWORDS

Medical Undergraduate, Teaching Methods, Psychiatry Teaching

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BACKGROUND

WHO defines health as a "state of complete physical, mental and social well-being and not merely an absence of disease or infirmity" and currently also includes the ability to lead a "socially and economically productive life". But out of these aspects, mental health has been often neglected by the medical professionals and patients alike. The point prevalence of mental illness in the adult population at any given time is 10%. It has also been reported that 20% of all patients seen by primary health care providers have one or more mental health disorders.¹ these statistics only appear to represent the tip of the iceberg with regards to the prevalence of mental illness in the population. This is mainly due to the negative attitudes towards mental illness and the field of psychiatry stemming from a lack of knowledge and pre-existing prejudices in not just the general population but also the medical fraternity.

There is a dearth of psychiatrists in India to tackle the growing mental health issues in the population in an effective manner with only about 0.3 psychiatrists per 100,000 population in the country.² Primary care doctors and also specialists and super-specialists of other medical fields often fail to detect psychiatric symptoms and refer for treatment appropriately. Also, communication skills and ability to form empathy are essential tools for all doctors which can be learnt best while learning psychiatry. But unfortunately, the medical students do not feel the motivation to learn psychiatry, do not actively participate in the postings and may harbour prejudices against mentally ill people and the field of psychiatry which persist even after they become practising doctors. Absenteeism, inattention and a lack of participation is often observed in bedside clinics and lectures alike. To correct this, newer teaching methods with integrated teaching have been advocated to make postings more interesting and enhance interest in psychiatry.³ but further research is needed to establish the effectiveness of the teaching methods in modifying the attitude towards psychiatry in medical students.

Keeping these things in mind, in this study, an attempt was made to understand the attitudes held by students towards mental illness and the field of psychiatry. The different teaching methods were evaluated in ensuring active participation of all students and in correcting the attitudes towards psychiatry in the medical students.

We wanted to compare didactic and peer learning methods, their effectiveness in changing the attitude towards the field of Psychiatry and assess the preferences of the students towards the learning methods, as measured by the feedback questionnaire.

METHODS

This is a quasi-experimental study conducted among 44 students of 2nd year MBBS posted in the Department of Psychiatry, Kanachur Institute of Medical Sciences, for 2 weeks clinical posting in the months of February and March,

2019, and who consented to participate in the study. Purposive sampling was done. Approval for the study was sought from the Institutional review board (IRB) and the Institutional ethics committee (IEC). IEC approval was granted on 13th February 2019 with reference number 4/Feb/IEC/2019.

Two batches of students of 2nd year MBBS posted in the Department of Psychiatry for two weeks in the months of February and March, 2019, were explained about the study and consent was taken. Those who consented to participate in the study were assessed at baseline regarding their attitude towards the field of psychiatry and mental illness using the Attitude to Psychiatry scale (ATP-30). The batches were divided into two groups, a control and an experimental group, based on picking lots. Both groups participated in bedside clinics to learn the clinical skills. But the control group were taught the theoretical aspects using small group lectures, whereas the experimental group were imparted theoretical knowledge with the use of active learning methods in the form of peer learning. The faculty members were allotted the lectures and sessions equally to avoid bias. The members of the experimental group were divided into groups of three and each group were given a topic in psychiatry and a certain time period to prepare for it. The members of each group had to work as a team and divide the topic into sub-topics and allot them amongst themselves equally. Each member had to then teach the other members of the group the sub-topic they had learnt so that all the members of the group knew the whole topic in entirety. In the session, the group had to present the topic allotted to them and a question and answer session was held subsequently at the end of the session with all the members expected to answer the questions put forward. The faculty member supervising the session was at hand to provide additional information and clarify the doubts. At the end of 1 week, assessment of attitude towards psychiatry and mental illness was done in both groups. Feedback regarding the teaching methods was also taken from both the groups and the students' opinions and preferences were assessed. In the 2nd week of posting, the students of both the groups switched over to the other group and the group taught with lectures in the 1st week had peer learning sessions in the 2nd week and vice versa. End posting assessment was conducted, as before, with practical examination and viva on the last day of posting.

Attitude to Psychiatry Scale (ATP-30)¹⁰: 30 item validated and reliable scale devised by Burra et al in 1982 to measure medical students' attitudes towards psychiatry. The scale consists of 4 sub-domains measuring attitude towards: psychiatric patients and psychiatric illness, psychiatrists and psychiatry, psychiatric treatment and hospitals, psychiatry knowledge and teaching. A self-administered feedback questionnaire assessing the benefits and drawbacks of the teaching methods. A 7-item scale was devised to obtain feedback from both the groups. At the start of the posting, the students were assessed using the Attitude to psychiatry scale and assessment with this scale was done again at the

end of 1 week. The self-administered feedback questionnaire assessing the teaching methods was also administered to the students at the end of 1 week. The findings were tabulated and SPSS software was used for statistical analysis.

Statistical Analysis

Descriptive analysis was carried out using mean and standard deviation for the mean total feedback score and the mean total scores of the ATP-30 scale and its subgroups pre and post-test. Unpaired t-test was used to compare the feedback mean total score between the experimental and control group. Mann Whitney U value was used to compare the post-test minus pre-test mean total scores of the ATP-30 scale and its subgroups between the experimental and the control group. Spearman’s rank correlation was used to study the association between the feedback questionnaire score and the differences between the pre and post-test mean total scores of the ATP-30 scale and its subgroups.

RESULTS

Baseline Scores on ATP-30 Scale

The mean total scores of the ATP-30 scale and its subgroups are listed in Table 1. The control group was found to have a slightly higher baseline mean total ATP-30 score (119.36) compared to the experimental group (117.18). The control group also scored higher on 3 of the 4 subgroups of ATP-30, except subgroup 3.

	Total Mean (S.D)	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)
Statements towards psychiatric patients and psychiatric illness (Subgroup 1) mean total score	17.02 (1.87)	16.64 (1.43)	17.41 (2.19)
Statements towards psychiatrists and psychiatry (Subgroup 2) mean total score	42.86 (5.09)	41.86 (4.49)	43.86 (5.57)
Statements towards psychiatric treatment and hospitals (Subgroup 3) mean total score	30.50 (3.39)	31.09 (2.99)	29.91 (3.74)
Statements towards psychiatry knowledge and teaching (Subgroup 4) mean total score	27.88 (3.33)	27.59 (3.87)	28.18 (2.74)
ATP-30 mean total score	118.27 (11.05)	117.18 (10.29)	119.36 (11.89)

Table 1. Baseline Scores on the ATP-30 Scale Overall and in the Subgroups in the Experimental and Control Groups

	Total Mean (S.D)	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)
Statements towards psychiatric patients and psychiatric illness (Subgroup 1) mean total score	17.41 (1.44)	17.55 (1.50)	17.27 (1.61)
Statements towards psychiatrists and psychiatry (Subgroup 2) mean total score	44.27 (5.45)	45.36 (5.03)	43.18 (5.75)
Statements towards psychiatric treatment and hospitals (Subgroup 3) mean total score	31.36 (4.13)	32.73 (4.39)	30.00 (3.41)
Statements towards psychiatry knowledge and teaching (Subgroup 4) mean total score	28.16 (3.71)	30.00 (3.48)	26.32 (2.99)
ATP-30 mean total score	121.20 (12.15)	125.64 (11.91)	116.77 (10.91)

Table 2. Post Study Scores on the ATP-30 in the Experimental and Control Groups

ATP-30 Scale Scores at the End of Study

The mean total scores of ATP-30 and its subgroups at the end of the study period (1 week) is listed in Table The experimental group was found to have higher scores than the control group in all the subgroups. The experimental group had significantly higher scores compared to baseline whereas the control group scored slightly lesser compared to the scores at the entry to the study.

Feedback Questionnaire Scores

The feedback questionnaire, created specifically for this study, was found to have a satisfactory internal Consistency as determined by the Cronbach’s Alpha score of 0.786 as noted in Table 3. The feedback questionnaire scores at the end of the 1-week study are as listed below in Table 4. The experimental group had a higher mean total score (32.77) compared to the control group (30.64) with the overall mean total score being 31.70

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardized items	No. of Items
0.786	0.801	7

Table 3. Internal Consistency of the Feedback Questionnaire

	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)	Total Mean (S.D.)
Feedback Mean Total Score	32.77 (2.49)	30.64 (2.89)	31.70 (2.87)

Table 4. Feedback Questionnaire Scores Overall and in the Experimental and Control Groups

Comparison of Difference of Mean Total Scores of ATP-30 Scale between Experimental and Control Groups

To evaluate the change in the attitude towards Psychiatry after 1 week compared to baseline, the mean total scores of the ATP-30 and its subgroups at baseline were subtracted from the mean total scores after 1 week in both the groups. The scores obtained in both the groups were compared using Mann-Whitney test, with the results being listed in Table 5. As seen in the table, more positive change in attitude towards Psychiatry was seen in the experimental group, compared to the control group, with the positive change being statistically significant in the overall ATP-30 score and in scores of subgroups 2 and 4.

Difference between the Groups Post Study and at Baseline	Groups	Mean Rank	U Value	(p Value)	Z Value
ATP-30	Experimental group	26.07	163.50	(0.062)	-1.866
	Control group	18.93			
subgroup 1	Experimental group	27.05	142.00	(0.019)*	-2.353
	Control group	17.95			
ATP-30 subgroup 2	Experimental group	25.14	184.00	(0.172)	-1.366
	Control group	19.86			
ATP-30 subgroup 3	Experimental group	28.89	101.50	(0.001)**	-3.313
	Control group	16.11			
ATP-30 subgroup 4	Experimental group	27.75	126.50	(0.007)**	-2.714
	Control group	17.25			
ATP-30 total score	Experimental group	27.75	126.50	(0.007)**	-2.714
	Control group	17.25			

Table 5. Comparison of Change in Attitude Scores at the End of the Study in Experimental and Control Groups

*Difference significant at the <0.05 level
 **Difference significant at the <0.01 level
 ***Difference significant at the <0.001 level

Comparison of Preferences of Students, as Assessed by Feedback Scores, between Experimental and Control Groups

Comparison of the feedback questionnaire mean total scores of the experimental and control group using independent t-test was done to assess the preferences of the students towards the different teaching methods. As seen in Table 6, statistically significant difference was found between the two groups, with the experimental group giving a more positive feedback regarding the teaching method compared to the control group.

	Experimental Group Mean (S.D.)	Control Group Mean (S.D.)	t Value (p)
Feedback total score	32.77 (2.49)	30.64 (2.89)	2.63 (0.012)*

Table 6. Comparison of the Feedback Questionnaire Scores in the Two Groups

*Difference significant at the <0.05 level

Association between Mean Total Scores of ATP-30 Scale and Feedback Questionnaire

Association between the preferences of the students regarding the teaching methods and the change in attitude towards psychiatry was studied and the results are listed in Table 7. Mean total score of feedback questionnaire was compared with the change in mean total scores of the ATP-30 scale and its subgroups for all the students at the end of 1 week using Spearman’s rank correlation. A statistically significant positive correlation was detected between the mean total feedback score and the positive change in attitude towards psychiatry as per the overall score and the scores of all the subgroups except subgroup 3.

	ATP-30 mean Total Score	ATP-30 Sub Group 1	ATP-30 Sub Group 2	ATP-30 Sub Group 3	ATP-30 Sub Group 4
Feed back Mean	0.490 (0.001)**	0.380	0.568	0.296	0.367
Total Score		(0.011)*	(0.000)***	(0.051)	(0.014)*

Table 7. Association between Feedback Questionnaire Scores and Change in Attitude as per ATP-30 Scores

*Correlation significant at the <0.05 level
 **Correlation significant at the <0.01 level
 ***Correlation significant at the <0.001 level

DISCUSSION

Mental illnesses, despite their high prevalence in the general population, often go undiagnosed and untreated. This is not just due to the prevailing stigma in the society towards mental illness, but also the negative attitude of medical professionals towards the field of Psychiatry. Most medical professionals are unequipped to diagnose and treat psychiatric illnesses and the negative attitude towards psychiatry, and the fear of backlash from the patients and their family members, often stops them from referring the patients to a mental health professional. Therefore, it is imperative to sensitize the medical students towards mental illness from an early stage in their undergraduate medical education and train them in the field of Psychiatry to make them competent to diagnose, treat and refer psychiatric patients appropriately and also to motivate them to become

psychiatrists in the future. Unfortunately, it is often noted that the students are often disinterested and absenteeism and lack of participation are common during clinical postings in the Psychiatry department.

To counteract this, some researchers have suggested the use of new, innovative teaching methods to hold their attention and motivate them to learn more about Psychiatry and mental illness which may enable to bring about a positive change in their attitude towards the field of Psychiatry and mental illness. Use of scales like ATP-30 and regular feedback have been suggested as being useful to monitor the teaching learning process and the change in attitude towards Psychiatry.¹³ In this study, we attempted to examine whether newer, more active teaching methods, in the form of peer learning, will help the students take more interest in the learning process and bring about a positive change in attitude towards Psychiatry. The mean total scores of ATP-30 at baseline were found to be almost similar in both the experimental and control groups. At the end of the study after 1 week, it was noted that there was a statistically significant, more positive change in attitude towards Psychiatry in the experimental group using peer learning compared to the control group who were taught using conventional methods like small group lectures. Significant difference was especially noted in the subgroups of ATP-30 pertaining to the attitude towards psychiatrists and Psychiatry and attitude towards psychiatric knowledge and teaching.

Statistically significant difference was also noted between the feedback mean total scores of the experimental and the control groups with the experimental group giving a more positive feedback regarding the teaching methods compared to the control group (means: 32.77 vs 30.64; t value/p value: 2.63/0.012*). This indicates that the students preferred the peer learning method and found it very effective to learn the topics in psychiatry. Association between the feedback scores and the change in attitude was also done to study the association between the attitude change and the feedback of the students regarding the teaching methods. Positive correlation was found between the feedback scores and the change in attitude in the 3 subgroups of ATP-30 pertaining to attitude towards psychiatric patients and psychiatric illness, psychiatrists and psychiatry, and psychiatry knowledge and teaching, with the results being statistically significant. From this, we can conclude that, in this study, the preferences of the students and their reaction to the teaching methods play a role in modifying the attitude towards psychiatry and mental illness.

Past studies have shown that psychiatric training improves the attitude of students towards psychiatry and mental illness.^{8, 9} However, one of the studies noted that the positive change in attitude may be transient and needs to be monitored over a longer duration to observe if the change in attitude is sustained. Hence, though this study gives us fresh input into whether newer teaching methods may help change students’ attitudes, long term ramifications and impact needs to be studied. Numerous studies have been done, both in India and abroad, to assess the attitudes of

medical students and professionals towards the field of Psychiatry and the impact of Psychiatry training on these attitudes with conflicting results. Many studies reported negative to neutral attitude towards psychiatry and mental illness in medical students and interns⁴⁻⁶ and multiple lacunae in knowledge of psychiatry, patients and psychiatric treatment was reported.⁷ In a study of 480 undergraduate medical students and interns, psychiatry was also not a popular career choice and was considered unscientific with psychiatrists being poor role models.⁴

Majority of the studies have shown that after exposure to psychiatry in postings, the overall attitude towards psychiatry and mental illness improved.⁸⁻¹² In a study of 135 participants consisting of 1st and 2nd MBBS students and interns, there was a better outlook of interns towards patients with mental illness and psychiatry.⁸ In another study comparing 108 students not exposed to psychiatry with 135 final year students and interns who had undergone psychiatry training, greater proportion of the latter group endorsed positive attitudes towards patients with mental illness. Women students were found to be more likely to consider psychiatry as a career choice, but the proportion of students of either gender opting for psychiatry as a career option did not differ significantly with psychiatric training.⁹ Experts have suggested that techniques like role plays, asking questions, giving opportunities to question, micro-seminars, problem based learning and collective feedback can be useful. Assessment of the attitudes towards psychiatry using Attitude to Psychiatry scale (ATP-30) at the beginning and the end of the posting routinely has also been proposed to help plan the syllabus better and to improve the training methods.¹³

One of the methods suggested to enhance students' participation in the psychiatry training has been peer learning and teaching. Peer learning and teaching has been shown to be effective in increasing the students' confidence in clinical practice and improves learning in the psychomotor and cognitive domains. Some pitfalls include incompatible personality and learning styles of the students who may benefit from didactic methods rather than active peer learning.¹⁴ Feedback taken from the students to study their preferences indicated that the students' response to peer teaching was positive and they found it to be interactive and beneficial.¹⁵

Limitations

Sample size is too small due to the time constraints. Study could be conducted on Only 2 batches of students posted in the department of psychiatry. The intervention period was only 1 week. The effectiveness of the interventions can be measured better if the study period was longer. The short study period meant the permanency of the attitude change couldn't be assessed. It is difficult to say if the change is only transient or will sustain and have the desired long-term impact. Personal characteristics of the students and other factors like the impact of clinical rounds with exposure to psychiatric ward environment and psychiatric patients may influence the results.

CONCLUSIONS

More positive change in attitude towards psychiatry, measured using the ATP-30 scale, was observed with use of newer, active teaching learning methods compared to traditional lectures. Active teaching learning methods prompted a better, more positive feedback from students compared to traditional teaching methods. Higher feedback scores correlated with a more positive change in attitude towards psychiatry.

Studies with a greater sample size and a longer period of intervention will give a deeper understanding of the effectiveness of the different teaching methods in modifying the attitude towards psychiatry. Long term, frequent, follow-up assessments of attitude towards psychiatry is necessary to examine if the attitude change is sustained. Newer innovative teaching methods can be studied to assess their effectiveness in modifying the students' attitude towards psychiatry. Qualitative studies in the future will help us better understand the students' preferences regarding teaching learning methods and the factors playing a role in shaping their attitudes towards psychiatry.

REFERENCES

- [1] Mahto RK, Verma PK, Verma AN, et al. Students' perception about mental illness. *Ind Psychiatry J* 2009; 18(2):92-96.
- [2] Mental health atlas, 2011. Geneva: World Health Organization 2011.
- [3] Kallivayalil RA. The importance of psychiatry in undergraduate medical education in India. *Ind J Psychiatry* 2012; 54(3):208-216.
- [4] Lingeswaran A. Psychiatric curriculum and its impact on the attitude of Indian undergraduate medical students and interns. *Indian J Psychol Med* 2010; 32(2):119-127.
- [5] Parikh NC, Sharma PS, Chaudhary PJ, et al. Study of attitude of interns toward psychiatry: a survey of a tertiary level hospital in Ahmedabad. *Ind Psychiatry J* 2014; 23(2):143-148.
- [6] Desai ND, Chavda PD. Attitudes of undergraduate medical students toward mental illnesses and psychiatry. *J Educ Health Promot* 2018; 7:50.
- [7] Chawla JM, Balhara YPS, Sagar R, et al. Undergraduate medical students' attitude toward psychiatry: a cross-sectional study. *Ind J Psychiatry* 2012; 54(1):37-40.
- [8] Gulati P, Das S, Chavan BS. Impact of psychiatry training on attitude of medical students toward mental illness and psychiatry. *Ind J Psychiatry* 2014; 56(3):271-277.
- [9] Tharyan P, John T, Tharyan A, et al. Attitudes of 'tomorrow's doctors' towards psychiatry and mental illness. *Natl Med J India* 2001; 14(6):355-359.
- [10] Burra P, Kalin R, Leichner P, et al. The ATP 30-a scale for measuring medical students' attitudes to psychiatry. *Med Educ* 1982; 16(1):31-38.

- [11] Singh SP, Baxter H, Standen P, et al. changing the attitudes of tomorrow's doctors' towards mental illness and psychiatry: a comparison of two teaching methods. *Med Educ* 1998; 32(2):115-120.
- [12] Konwar R, Pardal PK, Prakash J, et al. Does psychiatry rotation in undergraduate curriculum bring about a change in the attitude of medical student toward concept and practice of psychiatry: a comparative analysis? *Ind Psychiatry J* 2012; 21(2):144-147.
- [13] Manohari SM, Johnson PR, Galgali RB. How to teach psychiatry to medical undergraduates in India? A Model. *Indian J Psychol Med* 2013; 35(1):23-28.
- [14] Secomb J. A systematic review of peer teaching and learning in clinical education. *J Clin Nurs* 2008; 17(6):703-716.
- [15] House JB, Choe CH, Wourman HL, et al. Efficient and effective use of peer teaching for medical student simulation. *West J Emerg Med* 2017; 18(1):137-141.