

## IMPACT OF CONSTRUCTIVE FEEDBACK ON THE UNDERGRADUATE MEDICAL STUDENTS' ATTITUDE TOWARDS PSYCHIATRY

Muhammad Masood Khokhar, Muhammad Luqman\*, Amina Ahmad\*\*, Tanwir Khaliq\*\*\*

CMH Lahore Medical college Lahore, \*Al Shifa Trust Eye Hostital Rawalpindi, \*\*College of Physicians and Surgeons Lahore, \*\*\*Shaheed Zuifiqar Ali Bhutto Medical University (SZABMU) Islamabad

### ABSTRACT

**Objective:** To determine the impact of constructive feedback, during clinical attachment, on the undergraduate medical students' attitude towards psychiatry

**Study Design:** Quasi-experimental study.

**Place and Duration of Study:** CMH Lahore Medical College, Lahore, Pakistan from December 2012 to October 2013

**Methods:** Participants were 107 students of final year MBBS. They were divided into study and control groups. Demographic data was recorded and attitude towards psychiatry (ATP-30) questionnaire was administered to all the students before the clinical attachment. Both the groups underwent 3 weeks clinical attachment. However, only the students in study group received constructive feedback. ATP-30 was re-administered to students of both groups soon after completion of attachment. Because of errors and omissions in data, forms of two students were excluded. Statistical analysis was carried out on data of 105 students, which consisted of 53 students in the study group and 52 in control groups.

**Results:** The mean age of study group was 22.21 years (SD=0.885), while that of control group was 22.19 years (SD=0.886); with 32.1% and 34.6% males in the study and control group respectively. Both the groups had comparable demographic features. Pre-attachment ATP30 scores of both groups were comparable i.e.  $84.47 \pm 5.29$  versus  $84.56 \pm 5.30$  (p-value < 0.934). However, post-attachment scores of both groups increased i.e.  $103.11 \pm 5.98$  versus  $85.85 \pm 4.31$  (p-value < 0.001). This increase in score was statistically highly significant in the study group.

**Conclusion:** Constructive feedback during clinical attachment has a significantly positive impact on the undergraduate medical students' attitude towards psychiatry.

**Keywords:** Constructive feedback, Clinical attachment, ATP-30, Undergraduate medical students.

### INTRODUCTION

According to World Health Organization (WHO), psychiatric disorders are among the top 10 causes of economic burden of diseases, while depression alone is second in the list<sup>1</sup>. Despite these alarming indicators, a negative attitude towards patients with psychiatric disorders persists globally; partially because of local and cultural health belief systems<sup>2</sup>. If shared by the health professionals; these negative attitudes may affect the health care of people suffering from psychiatric disorders<sup>3</sup>. In a study, carried out at the Irish University; it was observed that the perception of psychiatry, amongst undergraduate

medical students was positive; following clinical clerkship program and an increased number of students indicated that they might choose a career in psychiatry<sup>4</sup>. Some studies<sup>5-8</sup> have reported a positive change in attitude of students to psychiatry after a psychiatric clerkship, while others have failed to find such an influence<sup>9-12</sup>. Some researchers even reported a deterioration in the interest of medical students towards psychiatry, during the medical school<sup>13</sup>.

In view of these conflicting findings, the impact of teaching and training of psychiatry, on attitude of medical students needs to be carefully understood for future training development<sup>2</sup>. Previous studies, including those carried out in Pakistan<sup>5,14-18</sup>; were descriptive and majority did not use a validated instrument like ATP-30 for measurement of attitude of the undergraduate medical students<sup>19</sup>. Some other studies found that

**Correspondence:** Col Muhammad Masood Khokhar, Psychiatry Dept. CMH Lahore.

Email: masoodkhokhar2@yahoo.com

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socio-cultural factors; influence attitude of undergraduate medical students towards psychiatry<sup>3-5</sup>. In view of these findings, some authors have stressed a need for interventional studies on this subject<sup>20</sup>.

One important study found out that feedback during clinical attachment increased the confidence and direction of undergraduate medical students; provided it was meaningful and constructive<sup>21</sup>. Hence, the author recommended that feedback should be included into undergraduate psychiatry curricula. It has also been observed that those medical students who receive feedback during clinical attachment become more positively inclined towards psychiatry, as compared to those who merely act as observers<sup>22</sup>. However, hardly any research was carried out to investigate the influence of constructive feedback on undergraduate medical students' attitude towards psychiatry.

The objective of this study was to determine the impact of constructive feedback, during clinical attachment; on the attitude of the undergraduate medical students; toward psychiatry.

## **SUBJECT AND METHODS**

After approval of research ethics committee, this quasi-experimental study was conducted in the department of psychiatry, Combined Military Hospital Lahore Medical College, Lahore; during session 2012-2013. The participants were 107 final year medical students, with diverse backgrounds. The students were attached for 3 weeks, with psychiatry department. For clinical teaching, they were divided into batches each having 9 students. Demographic data was recorded and Attitude Towards Psychiatry (ATP30) questionnaire was completed by all the participants before and soon after the completion of attachment<sup>19</sup>. To obtain consent, students were explained the purpose of research and were assured confidentiality of their data. Before commencement of clinical attachment, students were assigned to either study group or control group according to roll numbers. Students with odd roll numbers were

assigned to the study group while those with even numbers to control group. For the purpose of intervention, only the students in the study group received constructive feedback. Except for constructive feedback, appropriate arrangements were made to provide all students with a uniform clinical exposure. Constructive feedback had not been routinely practiced in the department before this study and feedback consisted of tests results at the end of attachment.

The learning experiences during clinical attachment consisted of brief interactive lectures, bedside teaching and small group discussions on indoor patients. All the students learnt and practiced history taking, psychiatric examination, making a diagnosis, preparation of management plans and case presentations. However, only the students in the study group received constructive feedback immediately after each performance; in the presence of faculty members. To achieve a uniformity, the constructive feedback consisted of interpersonal rapport building with students, elicitation of their feelings, self-reflection on performance, a non-judgmental, focused approach and specific but limited amount of feedback.

ATP-30 is a validated study instrument, developed by Burra et al<sup>19</sup> in 1982 for use in the undergraduate medical students. It is a 5-point Likert scale with 30 questions, which give a score ranging from 30 to 150. It measures participants' views ("Strongly Agree", "Agree", "Neutral", "Disagree", "Strongly Disagree") to each question in four domains of psychiatry. These domains cover psychiatric teaching and career in psychiatry, psychiatry and mental illness, psychiatric institutions and psychiatrists and the psychiatric patients and treatment. The attitude scores of participants in both groups were calculated.

Data were analyzed with the help of Statistical Package for Social Sciences (SPSS version-17). For quantitative variables mean and standard deviation (SD) were calculated, while frequencies and percentages were calculated for

qualitative variables. For non-normal variables median and inter-quartile ranges were calculated.

## RESULTS

Out of 107 students, ATP forms of 2 students

**Table-1: Comparison of demographic features of study and control groups.**

Demographic data	Study group (n=53)	Control group (n=52)	p-value
Age (Mean $\pm$ SD)	22.21 $\pm$ 0.885	22.19 $\pm$ 0.886	0.930
Gender			
Male	17 (32.1%)	18 (34.6%)	0.783
Female	36 (67.9%)	34 (65.4%)	
Background			
Urban	40 (75.5%)	38 (73.1%)	0.779
Rural	13 (24.5%)	14 (26.9%)	
Pre-medical education			
F.Sc	20 (37.7%)	20 (38.5%)	0.939
A-Levels	33 (62.3%)	32 (61.5%)	

**Table-2: Summary of pre- and post-clinical attachment scores of study and control groups.**

Total and domain wise scores	Study group (n=53)	Control group (n=52)	p-value
Pre-attachment total scores	84.47 $\pm$ 5.29	84.56 $\pm$ 5.30	>0.934
Post-attachment total scores	103.11 $\pm$ 5.98	85.85 $\pm$ 4.31	< 0.001
p-value	< 0.001	<0.028	
Pre-attachment Domain-1* scores	10.81 $\pm$ 2.23	10.88 $\pm$ 2.18	>0.865
Post-attachment Domain-1 scores	13.70 $\pm$ 1.64	11.62 $\pm$ 2.34	< 0.001
p-value	< 0.001	< 0.001	
Pre-attachment Domain-2** scores	30.17 $\pm$ 2.76	30.19 $\pm$ 2.78	>0.967
Post-attachment Domain-2 scores	36.74 $\pm$ 2.80	32.52 $\pm$ 2.78	< 0.001
p-value	< 0.001	< 0.001	
Pre-attachment Domain-3*** scores	18.94 $\pm$ 3.33	18.75 $\pm$ 3.08	>0.758
Post-attachment Domain-3 scores	23.19 $\pm$ 3.25	18.44 $\pm$ 3.44	< 0.001
p-value	< 0.001	<0.172	
Pre-attachment Domain-4**** scores	24.72 $\pm$ 1.96	24.81 $\pm$ 1.89	>0.810
Post-attachment Domain-4 scores	27.45 $\pm$ 1.72	23.56 $\pm$ 2.27	< 0.001
p-value	< 0.001	<0.007	

Values are expressed as mean  $\pm$  SD, D1\*: Psychiatric teaching and career, D2\*\*: Psychiatry & mental illness  
D3\*\*\*: Psychiatric Institutions and psychiatrists, D4\*\*\*\*: Psychiatric patients & treatment

For comparison of pre and post attachment scores of each group Independent samples' t-test and chi-square test was applied. Similarly Independent samples' t-test was used for comparison of quantitative variables and Chi-square test, to compare qualitative variables between both groups. Because of non-normal and non-linear distribution of data, Mann-Whitney U test was applied to compare the changes in total as well as domain-wise scores for both groups. A p-value of <0.05 was considered as significant.

were excluded because of incomplete filling of questionnaire. The final group had 105 participants; which consisted of a study group (n=53) and a control group (n=52). The mean age of study group was 22.21 years (SD  $\pm$  0.885) with 32.1% males while that of control group was 22.19 years (SD  $\pm$  0.886) with 34.6% males. Both the groups were comparable with respect to age ( $p = 0.930$ ), gender ( $p = 0.783$ ), background ( $p = 0.779$ ) and pre-medical education ( $p = 0.939$ ) (Table-1).

Before the clinical attachment, both study and control group, had comparable total scores as well as domain scores ( $84.47 \pm 5.29$  versus  $84.56 \pm 5.30$  with  $p$  value  $> 0.934$ ). However, after the clinical attachment both groups showed a significant increase in total score  $103.11 \pm 5.98$  vs.  $85.85 \pm 4.31$  with  $p$  value  $< 0.001$ ). An overall positive change in attitude towards psychiatry was observed in all domains except domain 3 and 4 of control group which showed a decrease in score. The decrease in score was statistically significant in domain 4 of control group ( $p$ -value  $< 0.007$ ) (table-2).

As shown in table-3, the change in attitude was significantly higher in study group as compared to control group. It was observed that for domain 3 and domain 4 the median was zero and -1 respectively with negative lower quartile value, which shows a decrease in scores after the clinical attachment.

## DISCUSSION

This study has shown that clinical attachment had an overall positive impact on the attitude of all medical students whether they received constructive feedback or not. This is similar to findings of previous studies on the subject<sup>5-8</sup>. However, constructive feedback had also an independent influence in shaping the positive attitude of medical students towards psychiatry. The exact mechanism of this influence is not clear. It is possible that a close collaboration and involvement of faculty with the students might be a factor. Moreover, a close interaction, sense of participation and improved confidence could be contributory in shaping the attitude of medical students. Other studies showed a variable impact of clinical attachment on the attitude of medical students towards psychiatry. Some authors found a positive influence<sup>5-8</sup>, while others did not find any change in their attitudes<sup>10-11,25</sup>. However, those studies were mostly descriptive and had differences in sample size, methodology, measuring instruments and duration of clinical attachment. Some authors observed that medical students who received

feedback on their performance during clinical attachment felt reassured and more comfortable provided it was meaningful, structured and flavored with constructive criticism<sup>20-22</sup>. Probably the students who received constructive feedback, in our study; developed a positive attitude towards psychiatry through a similar mechanism. However, previous studies were mostly observational and did not use constructive feedback as an intervention. Martin et al<sup>24</sup> in their study gave a brief presentation and provided a handout to one group of students, undergoing clerkship in psychiatry; while the other group did not receive it. They noted that this brief intervention brought a positive change, in the knowledge and awareness of exposed group; on the positive aspects of child and adolescent psychiatry. However, the intervention was too simple and brief. In our study the intervention was relatively more sophisticated and meaningful.

McIlwrick et al<sup>23</sup> showed that actions of the teachers and quality of clinical experiences, during clinical attachment brought a positive change in the attitude of medical students towards psychiatry. Specific factors identified in their study, were direct involvement of the students in patient care and their pleasant interaction with staff and patients. In our study care was taken to conduct the sessions of constructive feedback in a pleasant and friendly environment. Moreover, the self-esteem and sense of security of the students was also ensured.

An interesting finding in our study was decreased scores on domain-3 and domain-4 in the control group after the attachment (table-3). This decrease was statistically significant in domain-4 which included questions related to psychiatric treatment and psychiatric institutions. The exact reason is not clear, however, three weeks of clinical attachment; probably did not give the students a chance to see the treatment results in indoor patients; which is normally a time taking process in a tertiary care psychiatric facility. Moreover, predominant exposure of the

students to indoor psychiatric service; gave them a feeling that treatment was perhaps not very

Similarly, Amini et al<sup>25</sup> in a quasi-experimental study, did not find any significant change in the

**Table-3: Comparison of change in scores between the study and control groups.**

Total score and domains scores (1-4)	Study group (n=53)*	Control group (n=52)*	p-value
Total scores			
All domains combined	19 [16 - 20]	1 [ (-2) - 5]	< 0.001
Domain-1			
Psychiatric teaching & career	3 [1 - 4]	0 [0 - 2]	< 0.001
Domain-2			
Psychiatry & mental illness	7 [5 - 8]	2.5 [1 - 4]	< 0.001
Domain-3			
Psychiatric Institutions & psychiatrists	4 [3 - 6]	0 [(-1.75) - 0]	< 0.001
Domain-4			
Psychiatric patients & treatment	3 [2 - 4]	-1 [(-1) - 0]	< 0.001

\*Values are expressed as median (Inter-quartile range)

effective, as they mostly interacted with clinically serious and symptomatic cases. A relatively close environment of the indoor facility and restrictions on the free movements outside the ward, due to safety and security concerns of patients; might have given students an impression that probably it was a prison like facility. On the other hand the scores on rest of the domains improved significantly even in the control group students, as these domains covered other aspects of psychiatry. However, students who received constructive feedback had significant improvement in scores on all the domains after completion of attachment. In addition, the students in study group; were most probably in a better position to clarify the misunderstandings or misperceptions about various aspects of psychiatry; which previously existed in their minds or originated during the attachment.

Fischel et al<sup>11</sup> in an observational study, did not find any change in the attitude of undergraduate medical students; following 5 weeks clinical attachment during which they had diverse learning experiences in psychiatry. However, the authors acknowledged the limitations of their findings due to a small sample size and descriptive design instead of interventional design; as used in our study.

attitude of 346 students of fourth and fifth year after psychiatry internship. However, the authors did not clarify the duration of clinical attachment and type or extent of clinical exposure in that study. Moreover, there was no control group in that study. On the other hand, Sajid et al<sup>7</sup> found a significant change in the attitude of undergraduate medical students after 4 weeks of full time clinical attachment. In this study, the students were exposed to various learning experiences, including small group discussions, case presentations and a research project. The mean age of students was 22 years in this study which was similar to our sample. However, the attitude measurement was carried out with a different questionnaire which needed validation. Moreover, their study design was descriptive.

Realizing the variable findings by different authors, Balon<sup>21</sup> recommended sophisticated studies to accurately determine the impact of clerkship on students' attitudes towards psychiatry. He stressed that the future educational research should be based on interventional designs to clearly identify the key variables on the issue. As far as provision of feedback to undergraduate students in psychiatry is concerned, some authors found out that despite its usefulness it is not routinely provided to the students because of lack of training, fear and time

constraints<sup>20-23</sup>. They observed that feedback delivery was being neglected at all levels of training in undergraduate psychiatry. When provided, it is mostly in the form of summative assessment with pass fail decisions. In this background, findings of our study will remind the educationist in psychiatry; to consider provision of constructive feedback to undergraduate medical students; in order to bring a positive change in their attitude towards the speciality.

## CONCLUSION

Constructive feedback during clinical attachment has a significantly positive impact on the undergraduate medical students' attitude towards psychiatry. Therefore, it is recommended to be included in the undergraduate curriculum of psychiatry.

## Limitations

The student sample was relatively small and obtained from a single centre. The duration of clinical attachment was brief and exposure was mostly to indoor cases. Further research, with larger multicentre samples is needed for generalizability of the findings.

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