

AETCOM an Integral Part of Medical Education Helps in Improving Patient-Doctor Relationship: Attitude, Perception and Apprehension of Medical Undergraduate Students

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Abstract: ***Introduction:** Violence against healthcare professionals has become an increasing concern worldwide. Poor communication being a major factor in patient-doctor mistrust as identified in several studies. To overcome this challenge, The National Medical Commission (Previously MCI) has incorporated the AETCOM (Attitude, Ethics and Communication) module into the Competency Based Medical Education curriculum, as a mandatory component. The purpose of this study was to evaluate the attitude, perceptions and apprehensions of first year MBBS students regarding the impact on patient-doctor relationship following their month-long exposure to real patient encounters. **Method:** A cross-sectional study was conducted among 250 undergraduate students posted to different clinical departments at GS Medical college and Hospital. A semi-structured questionnaire validated to include five sections: demographics, attitude, perceptions, apprehensions and suggestions was administered to the students a month after their clinical postings. The attitude, perception and apprehension sections were measured using a five-point Likert scale. The qualitative data was analysed using descriptive statistics, Cronbach's alpha for reliability and Pearson's correlation. The thematic analysis was used to analyze qualitative suggestions. **Result:** A total of 240 students reported (58.3% male; 70.8% aged 17-20 years). Students showed a positive attitude towards AETCOM, with all attitude items having mean score above 3.8 and excellent internal consistency with $\alpha = 0.84$. Perception scores were also strongly positive with overall mean $(3.82 \pm 0.39; \alpha = 0.84)$. Apprehension scores were moderate mean $(3.03 \pm 0.48; \alpha = 0.78)$ with highest concerns related to patient interaction difficulty and limited assessments. Significant positive correlation was observed between attitude and perception ($r = 0.62, p < 0.001$) while apprehension showed significant negative correlation with both attitude and perception. Qualitative analysis revealed four major themes; the need for interactive sessions, clinically integrated sessions, formative assessment with continuous feedback and structural teaching improvements. **Conclusion:** Students exhibited favourable attitudes and perceptions towards AETCOM, with only mild apprehensions. Strengthening experiential learning and continuous assessment may further enhance AETCOMs impact on patient-doctor relationships. Further longitudinal studies will be more informative.*

Keywords: Ethics and empathy, communication skills, Active learning, Clinical exposure, Experiential learning, Feedback, reflections

1. Background

Violence against health care professionals has increased in recent years. Violence against doctors is not restricted to a particular place or country, instead, it is being reported worldwide. Workplace violence is an emerging relevant public health problem among health care professionals globally, including in India (1).

There are many causes for the increase in violence against medical personnel. Poor communication is considered as one of the many causes for patient-doctor mistrust at global platform. Poor communication too is an important cause of rising incidents of violence in India. This is an area where much emphasis needs to be laid especially during medical training (1,2). The NMC (former Medical Council of India) introduced AETCOM teaching as a mandatory part of teaching-learning assessment program in the MBBS Competency based medical education curriculum. The domains of attitude and communication, with an emphasis on ethics, therefore need to be taught directly and explicitly throughout the undergraduate curriculum.

The AETCOM module was introduced longitudinally throughout the phases of MBBS curriculum. The package of competencies is described in 27 modules to be taught across four professional years of study, spanning different phases: preclinical, paraclinical and clinical phases (2,3,4). AETCOM modules are delivered through a combination of lectures, hospital visits, simulated patients, role-plays, case-based discussions and video-clips.

AETCOM learning sessions and their role in improving doctor-patient interactions and doctor-patient relationship can be assessed better by student's perceptions only after real-patient encounters in OPD settings (5). There are many studies where student's perspectives of AETCOM have been reported after completion of foundation course or after completion of AETCOM modules mainly 1.2 and 1.3 in first year AETCOM teaching. This study aimed at recording student's attitude, perceptions and apprehensions after completion of one month of posting to clinical departments and OPDs post first year MBBS university examination. How AETCOM teaching helped them in their real patient encounters, what were their concerns and apprehensions during patient interactions were recorded by sharing online semi-structured questionnaire. The questionnaire had

different segments for recording attitude, perceptions, apprehensions and suggestions.

Aim

To assess medical undergraduate student's attitude, perceptions and apprehensions of the role of AETCOM in improving patient-doctor relationship

Objectives

- 1) To assess the role of AETCOM in improving student's communication skills and empathy in daily patient interactions
- 2) To assess student's attitude and perceptions of AETCOM
- 3) To assess barriers and apprehensions of AETCOM teaching and learning application in real-patient encounter.

Method:

Type of study: Cross-sectional study

Place of study: GS medical college and hospital

Study population: Ist year MBBS students on clinical posting to various clinical departments post first year MBBS university examination

Sample size: 250 students

Inclusion criteria: Students of 2024-2025 batch on clinical posting to various clinical departments who submitted the questionnaire after completing it within specified time

Exclusion criteria: Students of 2024-2025 batch who did not submit within specified time

Ethical considerations: Study was approved by ethical committee of GS medical college and hospital

Study duration: 1 year

2. Method

Students were posted to clinical departments on their clinical postings, after completion of one month of their posting they were sent a semi-structured questionnaire as google form to what's app group MBBS 2024-25. They were informed about the duration for completed form submission. Submission of the completed form was at their free will.

Questionnaire was divided into five segments as demographic description, Attitude, perception, apprehension and suggestions. Attitude, perception and apprehension each were having five items evaluated based on five-point Likert scale. Strongly disagree was numbered as 1, disagree as 2, neutral

as 3, agree as 4 and strongly agree as 5. Suggestions segment was divided into four heads as suggestions for pedagogical and teaching method changes, suggestions for curriculum and integration strategies, suggestions for assessment and feedback refinement system and suggestions for faculty and structural improvement.

Questionnaire was validated by both external and internal faculty trained in AETCOM teaching at regional centres for medical education. One weeks' time was given for the completion and submission of form. Responses were collected and both qualitative and quantitative data sets were prepared and analysed by using SPSS 20.

Statistical analysis: Quantitative data was analysed by both descriptive and inferential analysis. Reliability analysis for attitude, perception and apprehension scales was done by deriving Cronbach's alpha. Correlation between attitude, perception and apprehension was assessed by using Pearson's correlation. Qualitative data was analysed by thematic analysis by identifying codes, categories and themes.

3. Result

Total of 240 students responded to the questionnaire. Out of 240, 140 (58.3%) were males and 100 (41.7%) were females. Majority of the participants (70.8%) were in the age group of 17-20 years.

1) Analysis of quantitative data

a) Gender distribution

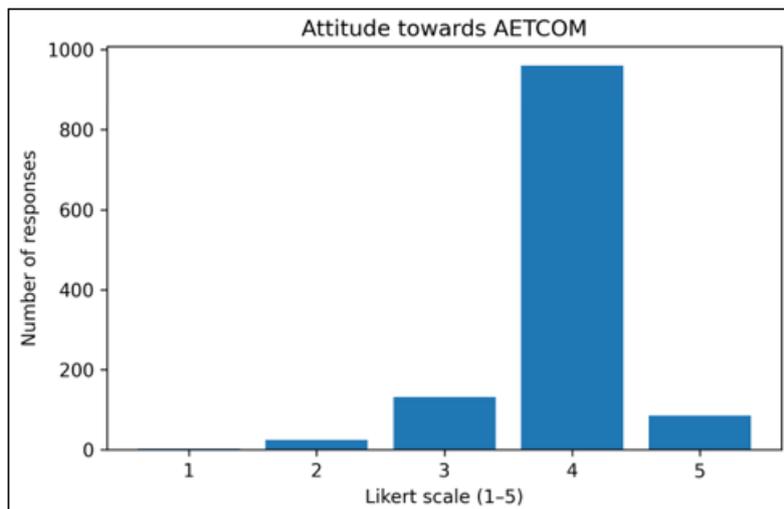
Gender	Frequency	Percentage
Male	140	58.3%
Female	100	41.7%
Total	240	100%

b) Age group distribution

Age-group	Frequency	Percentage
17-20 yrs	170	70.8%
21-24 yrs	70	29.2%
Total	240	100%

c) Attitude of students for AETCOM (Positive domain)

Item	Mean	Standard deviation
1.AETCOM is an important part of medical training	3.92	0.40
2.Ethical and communication skills are as important as clinical knowledge	3.88	0.60
3.AETCOM sessions should be mandatory	3.84	0.65
4.AETCOM sessions are interesting and useful	3.98	0.48
5.AETCOM improves professionalism and empathy	3.96	0.41



Graph 1

All items showed high mean score (>3.8) indicating an overall positive attitude towards AETCOM among medical students. The lowest variability was observed for item 1 and item 5, suggesting consistent agreement. 87.5% students agreed or strongly agreed that AETCOM is important. Similar skew towards agreement was present for all the items of attitude for AETCOM teaching and learning.

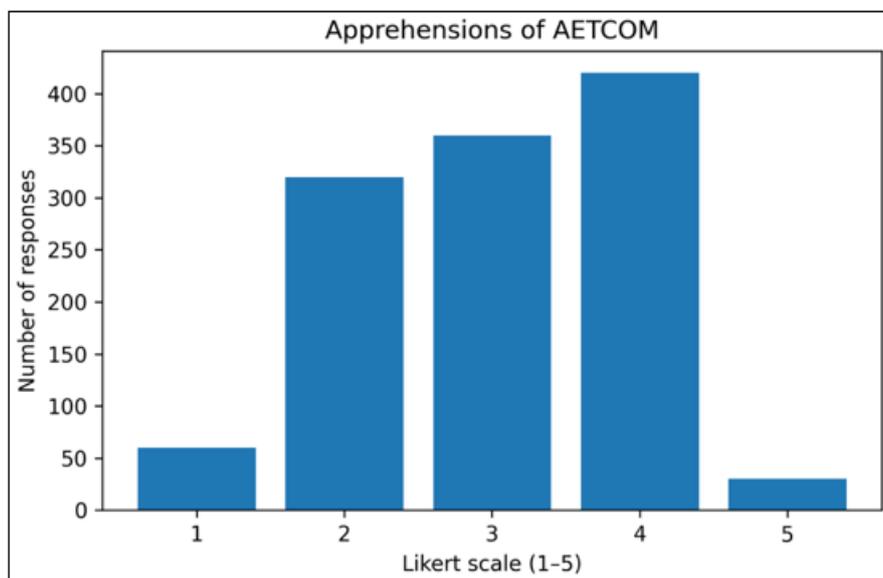
Reliability analysis was done by deriving Cronbach's alpha which is equal to 0.84. A Cronbach's alpha value of 0.84 indicates good internal

consistency of the questionnaire. This suggests that all five items reliably measure single underlying construct that is

student's attitude towards AETCOM. This scale is therefore suitable for further analysis and research

d) Apprehension of AETCOM (Negative domain)

Item	Mean	SD
1. Feeling shy/uncomfortable during patient interaction	3.21	1.01
2. Difficulty expressing views in AETCOM discussions	3.21	1.01
3. AETCOM adds extra load to curriculum	2.42	0.86
4. Lack of proper assessment reduces interest	3.29	0.89
Not confident applying ethical principles	3.03	0.48



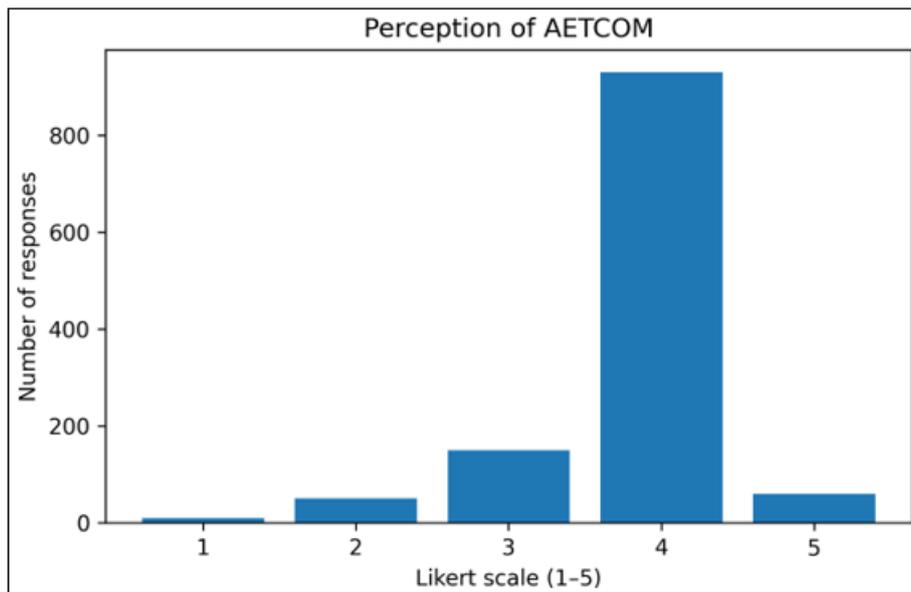
Graph 2

The mean apprehension score was moderate. Mean 3.03 ± 0.48 indicates a neutral to mild level of apprehension among students. Highest apprehension was observed regarding lack of proper assessment and difficulty in patient interaction.

Reliability analysis for apprehension scale measurement was done by deriving Cronbach's alpha = 0.78. This indicates acceptable reliability of apprehension scale as well as reliable measurement of student's apprehension.

e) Perception of AETCOM (Positive domain)

Item	Mean	SD
1. Helps become a better communicator	3.79	0.63
2. Topics relevant to real life practice	3.75	0.82
3. Faculty deliver sessions effectively	3.88	0.60
4. Assessment is fair and appropriate	3.67	0.61
5. Encourages reflection and critical thinking	4.00	0.41



Graph 3

Overall perception score was 3.82 ± 0.39 . Students demonstrated a positive perception of AETCOM. The highest agreement was seen for reflection and critical thinking, indicating strong acceptance of AETCOM modules in imparting educational values.

Reliability analysis for perception scale shows Cronbach's alpha equal to 0.84. This value of alpha shows good reliability of the scale used for evaluating perception of students.

II. Correlation between attitude, perception and apprehension

Each domain used a 5-point Likert scale. Each has 5 items for analysis. Pearson's correlation analysis revealed a statistically significant negative correlation between apprehension and perception towards AETCOM ($r = -0.45, p < 0.001$) indicating that higher apprehension was associated with poorer perception. Apprehension also showed a significant negative

correlation with attitude ($r = -0.45, p < 0.001$), indicating that a positive attitude is required for reducing apprehensions

A strong positive correlation was observed between perception and attitude towards AETCOM ($r = 0.62, p < 0.001$).

4. Analysis of qualitative data

Suggestions were noted under four broad headings

- 6. Thematic
 - Pedagogical and teaching method changes
 - Curriculum and integration strategies
 - Assessment and feedback refinement
 - Faculty and structural improvement
- analysis table

Codes	Categories	Themes
Small group discussion	Interactive teaching	Prioritize interactive learning
Peer led discussions	Collaborative learning Student engagement	Prioritizing interactive learning
Bed-side teaching Use of real patients	Experiential learning Practical understanding	Importance of real -life application
Sessions included in routine extra scheduled sessions	Time efficiency Workload	Integration of AETCOM in routine integration
Formative assessment Continuous feedback	Assessment for learning	Role of assessment and feedback in learning

Learners favour interactive sessions, clinically integrated AETCOM sessions embedded within time frame and routine schedule and supported by assessment for learning in the form of formative assessments with continuous feedback.

5. Discussion

Teaching and assessing professionalism do not occur by chance. Professionalism is associated with improved medical outcomes, including increased patient satisfaction and trust. Unprofessional behaviours are associated with adverse medical outcomes. The foundation of professionalism is

comprised of clinical competence, communication skills and sound understanding of the ethical and legal aspects of medicine (6).

In this study 58.3% were male and 70.8% of students were in the age group of 17-20 years. Sharma et al, have also reported similar findings. Hojart et al, have reported, females scoring higher on the empathy scale; however, this finding is not consistent and many studies have reported no significant gender differences in empathy and communication (7).

This study evaluated students' application of AETCOM teaching and learning in real patient interactions during their actual exposure to clinical practices. Most of the studies have evaluated students' perception of AETCOM after the foundation course or after completing AETCOM modules like 1.3 and 1.4, None of the studies were aimed at evaluating students' perceptions during real patient interactions. This study has not only recorded the attitude and perceptions of students but has also evaluated apprehensions in applying AETCOM learning, along with suggestions under four broad headings.

Students' attitudes were analysed using a 5-point Likert scale. Five items were evaluated in the attitude section. All items showed high mean scores, indicating an overall positive attitude towards AETCOM. This supports the educational relevance and acceptability of AETCOM in undergraduate teaching. Similar findings were reported by Shenwai et al, where students have shown very positive response to AETCOM learning sessions (8).

Perception of AETCOM was recorded for five items on 5-point Likert scale. The overall perception score was 3.82 ± 0.39 . This value confirms a positive perception of students towards AETCOM teaching and learning. In the perception domain, the highest agreement was seen for reflection and critical thinking. Students' agreement regarding reflections and critical thinking shows very positive agreement for AETCOM learning and their keen desire to apply it in their practice. Shilpa et al, have also reported that the introduction of the AETCOM module in the competency based medical education curriculum, with the intention of inculcating attitude, ethics and communication skills is a boon for developing professionalism in the young medical graduates (9). In yet another study by Dixit R et al, students have expressed that learning about AETCOM will help them in gaining patient confidence and develop self-confidence (10).

Apprehensions were evaluated using five items assessed on a 5-point Likert scale. The mean apprehension score was moderate indicating a neutral to mild level of apprehension among students. The highest apprehension was observed regarding the lack of proper assessment and difficulty in patient interaction. Patient interaction requires experience and more real patient encounters after AETCOM training (11).

All the scales used in this study were evaluated for reliability. Cronbach's alpha for all three scales was more than 0.7, indicating strong internal consistency among items. This also shows that these scales can be used for further research purposes.

A correlation between attitude, perception and apprehension was derived to determine how these psychological factors influence one another and predict behaviour. Pearson's correlation (r) was measured. Positive correlation was noted between attitude and perception. Positive attitudes are strong predictors of future behaviour and these, alongside perception, directly impact performance. Negative correlation was reported between apprehension and perception, and apprehension and attitude.

Suggestions were recorded under four broad headings, and thematic analysis was done. Students showed preference for active and student-centred learning. They reported that real life exposures and real patient encounters are more important tools in building ethical and communication skills. They are also concerned about the load that medical curriculum places on their shoulders. So, they prefer AETCOM sessions inclusion in their routine teaching and discourage scheduling them as extra sessions. They all showed preference for formative assessment, as they believe inculcating these practices will take time and should be continuously supported. Similar suggestions were reported by Mitra et al, (12) and Teglikar et al, (13). Besides this, suggestions were made to adopt the S_I_R approach for teaching sessions.

Students also supported reflective writing. Reflective writing should be practiced by all students and should be a part of their curriculum to improve the long-term process of refining empathy and communication skills.

This study was unique in evaluating attitude, perception and apprehension of students after their real-patient encounter. Attitude, perception and apprehension scales reliability status was also ensured by calculating Cronbach's alpha. Correlation between attitude perception and apprehension was derived using Pearson's correlation.

6. Conclusion

All students showed a positive attitude toward AETCOM teaching and learning. Positive attitude is directly associated with a positive perception for AETCOM learning. The apprehension score indicated a neutral to mild level of apprehension. Most students expressed a preference for active learning sessions, real – patient training sessions, and continuous assessment with feedback. Students also showed interest in reflective writing and requested that all sessions be scheduled within routine classes so they can have more time for other academic endeavours.

Future research: Further study is required to understand appropriate assessment methods for proper evaluation of AETCOM modules. A similar study can be conducted in the future on the same batch of students once they complete their internship.

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No conflict of interest

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