

Medical Education

## Impact of AETCOM module about autonomy, empathy and equanimity on ensuing clinical practice: Perceptions of medical undergraduates

Vikram Sharma<sup>1</sup>, Monica Aggarwal<sup>1</sup>, Puja Kumari<sup>1</sup>, Lokesh Parashar<sup>1</sup>, Rahul Kumar Bhati<sup>1</sup>, Ankur Singh<sup>1</sup>, Pankaj Kumar Gupta<sup>1</sup>

<sup>1</sup>Department of Pharmacology, ESIC Medical College and Hospital, Faridabad, Haryana, India.

### \*Corresponding author:

Pankaj Kumar Gupta,  
Department of Pharmacology,  
ESIC Medical College and  
Hospital, Faridabad, Haryana,  
India.

[drpankajguptaesic@gmail.com](mailto:drpankajguptaesic@gmail.com)

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### ABSTRACT

**Objectives:** In India, medical education is currently experiencing a significant transformation facilitated by the National Medical Commission through the implementation of competency-based medical education (CBME). The primary objective of CBME is to ensure that Indian medical graduates possess the necessary competencies to effectively address the health-care requirements of patients, emphasising on acquisition of skills over traditional knowledge-based training, with a specific focus on attitude, ethics and communication (AETCOM) competencies, striving to cultivate health-care professionals who can deliver comprehensive and compassionate care while upholding global standards of excellence. This study aimed to analyse the perceptions of medical undergraduates regarding the effectiveness of the AETCOM module pertaining to autonomy, empathy and equanimity in their foreseeable clinical practice.

**Materials and Methods:** This was an observational, analytical and cross-sectional study conducted in April 2023, where a structured questionnaire designed as Google Form was emailed to the 2<sup>nd</sup> phase MBBS students of ESIC Medical College and Hospital, Faridabad. The questionnaire was composed of 10 Likert scale-based statements on fundamentals of AETCOM pertaining to autonomy, empathy and equanimity with five options of 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree' and a subsection where students were asked to disclose their age and sex. Among all responses, 'strongly agree' and 'agree' were considered positive responses for questions 1, 2, 3, 6, 7, 8, 9 and 10, whereas for questions 4 and 5, they were 'strongly disagree' and 'disagree'. Pre-session and post-session assessment tests with ten multiple-choice questions based on AETCOM were also conducted. The results were analysed using SPSS Statistics 25.0.

**Results:** One hundred and fifteen out of 125 undergraduate medical students responded to the email by filling up the Google Form Questionnaire. The mean age of students was  $20.60 \pm 1.38$  years. On analysis, it was found that the mean of overall positive responses was increased after the session from  $38.20 \pm 6.60$  to  $91.30 \pm 9.27$  ( $P < 0.001$ ). The mean score of the assessment test also increased after the session from  $4.86 \pm 1.43$  to  $9.05 \pm 0.99$  ( $P < 0.001$ ). Mean positive responses were increased after the session for both sexes:  $17.11 \pm 5.13$  to  $42.44 \pm 7.95$  for males ( $P = 0.001$ ) and  $20.89 \pm 3.95$  to  $48.56 \pm 6.42$  for females ( $P = 0.001$ ). The positive responses were increased for each statement after the session.

**Conclusion:** This study highlights the effectiveness of AETCOM sessions on autonomy, empathy, and equanimity in evolving a positive perspective in medical undergraduates of all sexes regarding ensuing clinical practice in the future. By nurturing values, empathy, and effective communication skills, medical professionals can build stronger relationships with patients and contribute to a more compassionate and ethical healthcare system.

**Keywords:** Attitude, ethics and communication, Competency-based medical education, Autonomy, Empathy, Equanimity, Medical undergraduates, MBBS students, Perceptions

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## INTRODUCTION

Doctors are increasingly discontented, and violence against the medical community is on the rise.<sup>[1]</sup> This could stem from inadequate attitudes, ethics and communication within the doctor-patient relationship.<sup>[1]</sup> Consequently, it is crucial to focus on the emotional aspect of medical professionals by incorporating modules on applied ethics. This approach can maintain their enthusiasm for work, reinforce values and empathy and foster an understanding of patient and community interaction.<sup>[1]</sup> This emphasises the urgent necessity for revising the current medical curriculum.<sup>[2]</sup> Therefore, the Medical Council of India, now the National Medical Commission (NMC), underwent a significant overhaul of the conventional medical undergraduate curriculum by introducing a competency-based curriculum and making its implementation mandatory for the undergraduate medical cohort starting in 2019, as outlined in the latest Graduate Medical Education Regulation (GMER 2019).<sup>[3]</sup>

Until recently, medical education in India predominantly emphasised the cognitive aspect, overlooking the psychomotor and affective aspects. As a result, it struggled to produce clinicians capable of delivering holistic care that includes preventive, curative and palliative care infused with empathy and tenderness.<sup>[4]</sup> To cater to the affective domain, the competency-based medical education curriculum has seamlessly incorporated the attitude, ethics and communication (AETCOM) modules throughout various disciplines.<sup>[5]</sup> This comprehensive integration focuses on nurturing the 'heart' aspect by emphasising the cultivation of appropriate attitudes, effective communication skills and ethical practice in real-world situations for medical graduates.<sup>[6]</sup> Regarding the assessment of the affective domain, several novel assessment methods, both summative and formative, have been suggested to ensure that the evaluation of a trainee's skills and performance presents a more accurate representation in real clinical environments.<sup>[7]</sup> The evaluation of students will include an assessment of their patient communication, counselling skills during difficult circumstances, their ability to provide compassionate care and how effectively they obtain informed consent; all these aspects will be taken into consideration alongside their competencies.<sup>[8]</sup>

In the context of medical practice, autonomy commonly refers to the right of capable adults to make well-informed choices concerning their medical treatment.<sup>[9]</sup> This fundamental principle emphasises the necessity to obtain the patient's consent or informed approval before conducting any medical examination or administering treatment.<sup>[9]</sup> Empathy, a crucial communication skill for health-care professionals, entails comprehending the patient's personal experience without forming an emotional attachment, involving

three key dimensions that are emotional, cognitive and behavioural understanding.<sup>[9]</sup> Equanimity pertains to a steadfast psychological state and a composed mind that remains unaffected, even when confronted with pain, strong emotions, or challenging incidents.<sup>[9]</sup>

NMC clearly defines the desired competencies as the benchmarks that medical trainees are expected to achieve on completing the curriculum, which encompasses cognitive, psychomotor and affective skills, with particular emphasis on AETCOM as a vital component for shaping medical graduates into capable health-care professionals who can adeptly meet the needs of the community.<sup>[10]</sup> This study was the first of its kind to analyse the perceptions of medical undergraduates with regard to the impact of the AETCOM module on autonomy, empathy and equanimity in ensuing clinical practice.

## MATERIALS AND METHODS

### Study setting

This was an observational, analytical, and cross-sectional study conducted in the pharmacology department at ESIC Medical College and Hospital, Faridabad, in April 2023. The institute is one of the premier medical institutions under the Ministry of Labour and Employment, Government of India, affiliated to Pt. B.D. Sharma University of Health Sciences, Rohtak, Haryana.

### Ethics committee approval

The study was approved by the Institutional Ethics Committee of ESIC Medical College and Hospital, Faridabad (IEC No. 134 X/11/13/2022- IEC/114, dated 6 December 2022) [Annexure A]. The subjects were ensured complete confidentiality about the information they shared in the study.

### Study population

Phase 2 MBBS undergraduate students of batch 2021 attended the AETCOM session as an integrated part of their medical curriculum. Medical students who did not attend the session were excluded from the study.

### Study methodology

The study was conducted after approval from the Institutional Ethics Committee. The questionnaire comprised fundamentals of AETCOM modules pertaining to autonomy, empathy and equanimity and was sent to the attending students through email as Google Form [Annexure B]. The attending undergraduate medical students filled up the online form before and after the AETCOM session.

The questionnaire was composed of ten statements and a subsection where they were asked to disclose their age and sex. It was a Likert scale<sup>[11]</sup> based questionnaire with five options of 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree'. The questionnaire was focussed on their perceptions regarding various fundamentals of AETCOM pertaining to autonomy, empathy and equanimity. The positive responses for statements – 1, 2, 3, 6, 7, 8, 9 and 10 were considered as 'strongly agree' and 'agree', whereas for statements – 4 and 5, they were considered as 'strongly disagree' and 'disagree'. AETCOM session included presentations from accomplished faculty members of the institute's pharmacology department encircling the importance of practising autonomy, empathy and equanimity during clinical practice to healthcare professionals [Annexure C]. A pre-session and post-session assessment test subsuming ten multiple-choice questions related to AETCOM, mainly based on the principles of autonomy, empathy and equanimity, was also conducted [Annexure D]. The session encompassed roleplay activities, which involved the voluntary participation of 20 undergraduate medical students of the same batch to help students better understand the conceptuality of the session abreast, making it more interactive and captivating. It was focussed on demonstrating a 'good doctor' as one who incorporates autonomy, empathy and equanimity in their clinical practice versus a 'bad doctor' who does not.

### Statistical analysis

The data collected from the study were entered into a Microsoft Excel spreadsheet in 2019 and analysed using the Statistical Package for the Social Sciences Statistics 25.0 version. Kolmogorov–Smirnov test was applied to check the normality of data. Paired *t*-test was applied to analyse the difference in the means of pre-session responses and post-session responses. The data were expressed as mean  $\pm$  standard deviation and in terms of percentages and proportions.  $P < 0.05$  was considered as statistically significant.

## RESULTS

One hundred and fifteen undergraduate medical students out of a total batch strength of 125 attended the session and subsequently responded to the email by filling up the Google Form Questionnaire. The mean age of students was  $20.60 \pm 1.38$  years. In our study, it was observed that most students, that is 61 (53.04 %), were male. After applying the Kolmogorov–Smirnov test, our data were found to be normally distributed. Thus, we used a paired *t*-test to analyse the difference in the means of pre-session responses and post-session responses. On analysis, it was found that the mean of overall positive responses was increased from  $38.20 \pm 6.60$  to  $91.30 \pm 9.27$ ;  $P = 0.001$ , after the

session [Table 1]. The mean of positive responses was also increased after the session for both the sexes:  $17.11 \pm 5.13$  to  $42.44 \pm 7.95$ ;  $P = 0.001$  for males and  $20.89 \pm 3.95$  to  $48.56 \pm 6.42$  for females;  $P = 0.001$  [Table 1]. The mean score of the assessment test (out of 10) was also increased after the session from  $4.86 \pm 1.43$  to  $9.05 \pm 0.99$ ;  $P = 0.001$ . The positive responses were increased for each statement after the session [Figure 1]. The mean of positive responses regarding the perception of integration of AETCOM modules into the undergraduate medical curriculum [Statement – 9,10; Figure 1] was increased after the session from  $42 \pm 9.89$  to  $92 \pm 12.72$ ;  $P = 0.01$ .

## DISCUSSION

In our study, the significant increment in the positive responses after the session by 2.39 times exhibits that undergraduate medical students agree that integration of the AETCOM module pertaining to autonomy, empathy and equanimity into the undergraduate medical curriculum will help them during their clinical practice with regard to the better communication with patients as well as dealing with stressful clinical situations with more confidence and composure. In our study, the mean score of the assessment test was significantly increased by 1.86 times after the session, implying its effectiveness and signifies that the audience grasped the content of the session adequately.

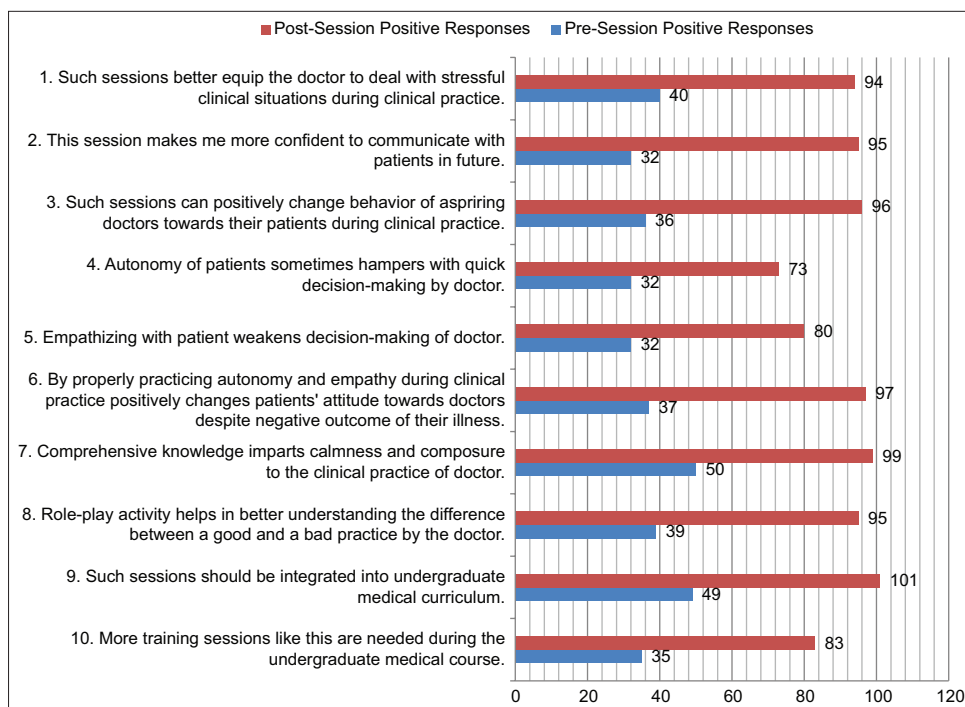
In the earlier research conducted by Ghosh and Bir<sup>[10]</sup>, the focus was on the practical aspect while evaluating the effectiveness of AETCOM implementation. They emphasised that OSPE stations utilising AETCOM-specific checklists incorporating roleplay activities, simulated patients and direct observations are deemed more appropriate for accurately assessing AETCOM outcomes.<sup>[10]</sup> Our results also indicated that the majority of the students after the session, that is, 82.6%, acknowledged that roleplay activities during the session not only helped to convey our message more comprehensively to the audience but also made the session more captivating.

**Table 1:** Comparison of pre-session and post-session positive responses.

	Mean $\pm$ SD		P-value*
	Pre-session positive responses	Post-session positive responses	
Overall (n=115)	38.20 $\pm$ 6.60	91.30 $\pm$ 9.27	0.001
Gender			<0.05**
Male (n=61)	17.11 $\pm$ 5.13	42.44 $\pm$ 7.95	0.001
Female (n=54)	20.89 $\pm$ 3.95	48.56 $\pm$ 6.42	0.001

n: Total number of MBBS students who attended the session.

SD: Standard deviation, \*Paired *t*-test; \*\*Statistically significant



**Figure 1:** Statement-wise comparison of pre-session and post-session positive responses.

As seen from our results, after attending the session, 87.8% of the respondents bespeak the importance of integration of AETCOM modules into undergraduate medical curriculum versus 42.6% before the session, and 72.2% are even inclined to attend more such sessions during their undergraduate medical course versus 30.4% before the session. The results from this study mirrored those of a prior study, wherein a significant 60% of faculty members strongly concurred on the positive impact of incorporating AETCOM competencies into competency-based medical education as a mandatory requirement.<sup>[10]</sup> Our study showed that there was a significant increment in positive responses after the AETCOM session, irrespective of the gender of medical undergraduates. However, female medical students have a more positive perspective regarding the importance of practising autonomy, empathy and equanimity during their clinical practice in both pre-session and post-session evaluation as compared to males, whereas male students seemed to be more equipped to deal with stressful clinical scenarios and more confident to communicate with patients during their clinical practice. The study conducted by Tenglikar *et al.*<sup>[12]</sup> and Nicolai and Demmel<sup>[13]</sup> yielded comparable findings, indicating that female physicians outperformed their male counterparts in terms of empathic communication skills.

Understanding the principles of autonomy and empathy is crucial for healthcare professionals, as they play a key role in the medical field. However, the true essence of an exemplary healthcare professional goes beyond mere comprehension; it involves an innate ability to perceive each patient as a

unique individual deserving of respect for their beliefs and values. Such professionals possess a natural inclination to empathise with their patients, resonating with their emotions and actively listening to their concerns. They integrate the patient's perspective into their medical decision-making process while striking a delicate balance between clinical considerations and respecting the patient's judgements on what matters most to them. Furthermore, in situations where a medical professional perceives that the patient may not fully grasp the significance or seriousness of clinical indicators, it becomes essential to engage the patient in conversation. This involves addressing them as a person capable of being influenced by information and rational persuasion, allowing for a more informed and collaborative approach to health-care decisions. Our study is distinctive in evaluating the importance of integrating the AETCOM module on principles of autonomy, empathy and equanimity into undergraduate medical curriculum and significant findings with respect to the perception of medical undergraduates regarding its positive role during their foreseeable clinical practice further bolster the gravity of its integration into undergraduate medical course.

Addressing the affective domain of medical professionals through teaching applied ethics is indeed crucial in fostering a positive doctor-patient relationship and reducing instances of violence against the medical community. Here's how incorporating modules on applied ethics can help. (1) Promoting empathy: Teaching applied ethics encourages doctors to empathise with their patients, understanding their

perspectives, emotions and concerns. By fostering empathy, medical professionals can establish trust and rapport with patients, leading to more effective communication and better healthcare outcomes. (2) Emphasising professionalism: Ethics modules can reinforce the importance of professionalism in healthcare practice. This includes respecting patient confidentiality, maintaining integrity in decision-making and upholding moral principles even in challenging situations. By instilling a strong sense of professionalism, doctors are better equipped to handle complex ethical dilemmas and navigate ethical grey areas. (3) Cultivating values: Teaching applied ethics allows medical professionals to reflect on their values and ethical beliefs. By engaging in discussions and case studies, doctors can explore ethical issues relevant to their practice and develop a deeper understanding of ethical principles such as beneficence, non-maleficence, autonomy and justice. This cultivates a sense of moral responsibility and integrity in healthcare delivery.

Most of the studies attributed to the implementation of AETCOM have highlighted the perceptions of the faculty members.<sup>[10,14]</sup> The present study is one among the very few studies<sup>[15]</sup> done to analyse the perception of medical undergraduates regarding the integration of AETCOM in undergraduate medical curriculum and rather one of its kind to assess its effectiveness on ensuing clinical practice. However, our study has few limitations as the findings of our study are based on the perceptions of medical undergraduates, and real-world evaluation of the impact of AETCOM competencies on their clinical practice is yet to be established. Furthermore, the sample size of the study was small to elucidate gender-based differences. We intend to follow up and further analyse the outcome once they start practising during their internship in the aforementioned medical college. To further validate the generalizability of our findings, it is requisite to conduct future studies with a larger number of participants and a heterogeneous population.

## CONCLUSION

The AETCOM modules add another dimension to the undergraduate medical curriculum. AETCOM, focusing on the affective aspects, plays a crucial role in shaping a medical graduate into a competent and community-oriented doctor, and its continuous evaluation should be an integral part of the undergraduate medical curriculum. This study clearly highlights that the AETCOM module pertaining to autonomy, empathy, and equanimity was effective in evolving a positive perspective in medical undergraduates of all sexes regarding ensuing clinical practice in future. Overall, integrating applied ethics modules into medical education and professional development can help address the root causes of dissatisfaction among doctors and reduce violence against the medical community. By nurturing values, empathy

and effective communication skills, medical professionals can build stronger relationships with patients and contribute to a more compassionate and ethical healthcare system. Nevertheless, the implementation of AETCOM is still in its infancy, and as time progresses, the real-world assessment of its impact on clinical practice will undoubtedly offer further insights and knowledge.

## Ethical approval

The research/study approved by the Institutional Review Board at ESIC Medical College and Hospital, Faridabad, number 134 X/11/13/2022- IEC/114, dated 30th November 2022.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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## Conflicts of interest

There are no conflicts of interest.

## Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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