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Original Research Article

Perceptions of AETCOM module amongst medical students: a questionnaire-based study

Kavita M. Jaiswal[1], Jijo Philip Abraham[2]*, Karra Rahul Chowhan[2]

[1]Department of Pharmacology, GMC Nagpur, Maharashtra, India
[2]Department of Pharmacology, GMC Akola, Maharashtra, India

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***Correspondence:**
Dr. Jijo Philip Abraham,
Email: me.jijo4u@gmail.com

ABSTRACT

Background: The Attitude, Ethics and Communication (AETCOM) module is a cornerstone of competency-based medical education (CBME), implemented in the medical curriculum. It aims to instill effective patient communication skills in students. The present study evaluates students' perspectives on the implementation of the AETCOM module.
Methods: This cross-sectional questionnaire-based study was conducted through Google form filling in 2nd phase MBBS students. Questions about knowledge attitudes and perspectives about the implementation of the AETCOM module in their MBBS curriculum were assessed.
Results: 172 students filled out the Google forms with a response rate of 86%. 169 (98.25%) students felt that it was essential to learn this module. 170 (98.83%) opined that ethics in medical practice is very important and learning it will help them in their future practice of medicine. 34% students reported of getting burdened in exams. Students preferred case-based scenarios and role plays most effective methods of learning. 53.5% of participants felt both summative assessment (SA) and formative assessment (FA) are essential for the complete evaluation of AETCOM competencies.
Conclusions: The participants reported inclusion of AETCOM is important because it helped them improve their communication skills and good relationships build with doctors. 34% of participants reported being stressed during exams due to the burden of the already existing heavy curriculum. These findings draw the attention of all stakeholders for a revision in the implementation of the module to ease learning. Students think that even though time-consuming, conducting both FA and SA is justifiable.

Keywords: AETCOM, Bioethics, Formative assessment, Summative assessment

INTRODUCTION

Medical education in India is currently experiencing a major transformation with the adoption of Competency-Based Medical Education (CBME) as mandated by the National Medical Commission (NMC). Strong communication skills are now recognized as vital for strengthening the doctor-patient relationship, improving treatment adherence, patient satisfaction and overall healthcare outcomes. It is essential for students to not only learn but also apply the principles of Attitude, Ethics and Communication (AETCOM) in their everyday clinical interactions. CBME shifts the focus from conventional knowledge-heavy teaching to a more skill-oriented learning model, placing significant emphasis on developing competencies in ethical behavior, effective communication and professional attitudes.[1]

In 2019, the NMC introduced a new AETCOM module as part of the competency-based curriculum for undergraduate medical students across India. This initiative was based on the consensus that ethics should be taught in an integrated and continuous manner throughout medical training, with specific hours allocated during each

phase of the undergraduate course. The AETCOM module was designed and disseminated as a guideline to assist students in acquiring competencies in attitude, ethics and communication.[2]

Including a communication module in the undergraduate medical curriculum is of critical importance. Ideally, this module should be introduced before clinical postings begin, which has already been implemented by the NMC for students admitted from 2019 onwards. For instance, Communication Module 1.4 (Foundation of Communication 1) is delivered during the first phase of MBBS, followed by Communication Module 2.1 (Foundation of Communication 2) and bioethics during Phase 2.

The AETCOM module has shown effectiveness in refining medical students' communication skills, which can contribute to a reduction in malpractice claims and legal issues faced by healthcare professionals.[3,4] Enhanced communication between doctors and patients correlates with higher satisfaction levels, better compliance with medical advice and improved health outcomes.[5]

The AETCOM module incorporates a hybrid model of problem-based learning that engages students in exploring real-world scenarios they are likely to encounter during their medical careers.[6] This teaching strategy aims to shape students into competent physicians, team leaders, communicators, lifelong learners and professionals.[7] Traditionally, Indian medical education emphasized theoretical knowledge over clinical skills and emotional intelligence; however, the updated curriculum by the NMC seeks to bring about a balanced development of knowledge, skills and empathy.[8,9]

The effectiveness of the AETCOM module's integration into the medical curriculum is influenced by its reception among students. Therefore, understanding their knowledge, attitudes and perspectives is critical in evaluating the module's impact on learning and its potential role in shaping future clinical practices.

METHODS

This was a cross-sectional, questionnaire-based study conducted at Tertiary Care Teaching Hospital from September 2024 to December 2024. The study population included 2nd year MBBS students who had undergone teaching on the AETCOM module as part of their university curriculum and in accordance with the National Medical Commission (NMC) guidelines.

Inclusion criteria

Inclusion criteria were all phase 2 MBBS students of the institution who had received formal instruction in AETCOM competencies during their pharmacology coursework. Participation was entirely voluntary.

Exclusion criteria

Students who did not wish to participate or those who had not been exposed to the AETCOM curriculum were excluded.

Procedure

The study tool was a self-designed, pre-validated, semi-structured questionnaire. The questionnaire was framed to assess students' knowledge about AETCOM competencies relevant to Phase 2 MBBS pharmacology. It also explored their attitudes and perspectives regarding the implementation of the AETCOM module in the curriculum, as well as their preferences for different teaching-learning and assessment methods. Participants were also encouraged to provide suggestions and additional remarks.

The questionnaire was pretested on five students and appropriate modifications were made based on their feedback to improve clarity and relevance. Data collection was carried out through Google Forms, with the link disseminated to eligible students via official institutional communication platforms. Respondent identity was kept anonymous to maintain confidentiality.

Ethical approval

The study was conducted after obtaining approval from the Institutional Ethics Committee, ensuring adherence to ethical principles in research involving human participants.

Statistical analysis

The responses were compiled and entered into Microsoft Excel. Descriptive statistics were used for data analysis and the results were expressed as counts and percentages.

RESULTS

In the batch of two hundred 2nd phase MBBS students, a total of 172 filled Google forms were received with a response rate of 86%. Amongst the 172 respondents, 86 were boys and 86 were girls with a mean age of 21.56 years. 168 (97.67 %) participants reported being aware of the addition of the AETCOM module in their MBBS syllabus for learning and assessment.

169 (98.25%) students felt that it is essential to learn this module and 164 (95.34%) participants enjoyed learning this module. 170 (98.83%) students demonstrated an understanding of the four pillars of bioethics which are autonomy, beneficence, non-maleficence and justice highlighting the foundational knowledge imparted through the module.

171 (99.41%) participants opined that ethics in medical practice is very important and learning it will help them in

their future practice of medicine. The participants were also evaluated for the importance of communication skills in dispensing pharmacology with patients and they felt that for good outcomes of therapy, the patient should be given information regarding the dose and dosage form of the drug, proper storage in their houses, uses and adverse effects of prescribed medicines.

When asked if incorporation of the AETCOM competency module in the curriculum burdens them in their exams, 124 (72.09%) participants opined no, it is not and 14 (8.13%) said yes, while 37 (25.51%) felt they get a little bit tensed.

124 (72.1%) students preferred case scenario and simulated cases as an effective study tool for learning AETCOM while 105 (61%) students opted for role play as a more suitable method, 104 (60.5%) students found small group discussion a good technique, while 83 (48.3%) students found one-way lecture by the teacher as an active method, 76 (44.2%) participants found video clips from movies and internet more effective and interesting learn with fun method, 74 (43%) respondents found debate by students on different topics of AETCOM as a thought-provoking method (Figure 1).

155 (90.11%) respondents opined that the logbook for exercises of AETCOM helps them learn the concepts in a better way (Figure 2). Regarding the assessment of AETCOM competencies, 92 (53.5%) participants felt both summative assessment (SA) and formative assessment (FA) are essential for a complete evaluation of AETCOM competencies while 68 (39.5%) students opined that FA is adequate and likewise 56 (32.6%) participants felt only SA would suffice. (Figure 3).

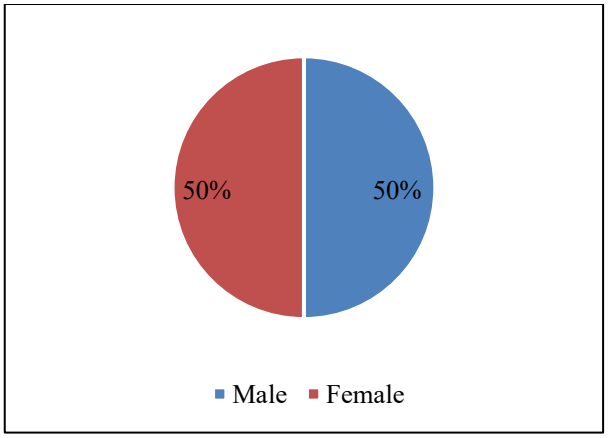

Figure 1: Gender distribution of our participants (n=172).

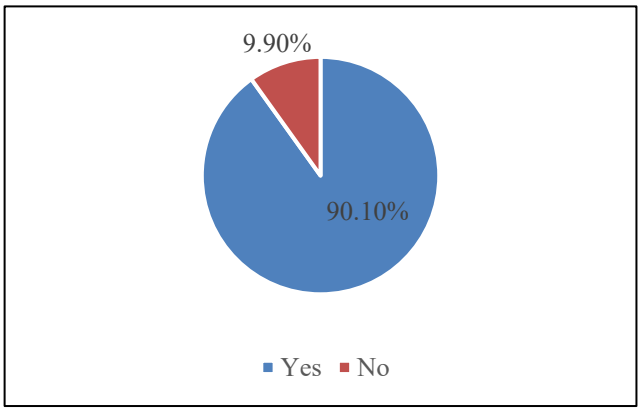

Figure 2: Logbook of AETCOM exercises maintained by the participants (n=172).

Table 1: Teaching-learning methods of AETCOM competencies preferred by the participants (n=172).

Preferred learning methods	Number	%
Case scenario as a study method	124	72.1
Role plays by students in the classroom	105	61
Video clips from movies /internet	76	44.2
Small group discussion	104	60.5
Debate by students on different topics of AETCOM	74	43
Lecture by teacher	83	48.3

Table 2: Assessment preferences of participants regarding AETCOM competencies (n=172).

Assessment preference	Number	%
Formative assessment (FA) (completion of log book/activity and projects/practical exam)	68	39.5
Summative assessment (SA) (Short question in theory exam)	56	32.6
Both FA and SA	92	53.5

DISCUSSION

In the present study, 168 (97.67%) participants reported being aware of the incorporation of the AETCOM module in their MBBS syllabus for learning and assessment. 169 (98.25%) students felt that it is essential to learn this module for effective communication with patients and 164 (95.34%) participants enjoyed learning this module. These

findings coincide with findings from another study where the students reported the inclusion of this module as noteworthy because it helped them improve their communication skills and provided insights into the professional qualities and roles of a physician.[10] 170 (98.83%) students demonstrated an understanding of the four pillars of bioethics i.e., patient autonomy, beneficence, non-maleficence and justice highlighting the foundational knowledge imparted through the module. 171 (99.41%) participants opined that ethics in medical practice is very important and learning it will help them to know the significance of informed consent of patients and handling their emotions.

Similar findings are reported by Sharma et al, in their study which shows the effectiveness of AETCOM sessions on autonomy, empathy and justice can build stronger relationships with patients and contribute to a more sympathetic and ethical healthcare system.[11] In a study by Barna Ganguly et al, majority of the students expressed that bioethics is as essential as a clinical subject in the medical curriculum though a few of them find the teaching uninteresting and nonessential.[12] Bioethics in the syllabus develops the ability of students to identify underlying ethical problems in medical practice and make decisions based on acceptable moral concepts. Such an organized and standard approach to ethical issues was missing in the Indian Medical curriculum.

The participants were also evaluated for knowing the importance of communication skills in the dispensing and storage of medicines. They felt that for good outcomes of therapy, the patient should be given information regarding the dose and dosage form of the prescribed medicines, proper storage in their houses, uses and adverse effects. Studies by different authors also report the same that proper counselling and advice by doctors regarding medicine storage and adverse effects to the patient can help better outcomes, avoidance of misunderstanding and good relationships build with doctors.[13-15]

In the present study 155 (90.11%) respondents opined that writing reflections and logbooks for exercises of AETCOM helps them learn the concepts in a better way (Figure 1) but when asked about the incorporation of the AETCOM competency module into the mainstream of curriculum burdens them in their exams, 124 (72.09%) participants opined no it is not and 14 (8.13%) said yes it, while 37 (25.51%) felt they get little bit tensed.

So in all around 34% of participants reported being stressed during exams because this adds to the already existing heavy curriculum, Shanmugam et al, in their study with first-year MBBS students found that students reported maintenance of reflective writing and self-directed learning, logbooks, records for each subject is too much time-consuming and is a burden for preparation of their exams.[16] These findings draw the attention of all stakeholders for a revision in the implementation of the module. In the present study maximum students (72.1%) students preferred case scenarios and simulated cases as an effective study tool for learning AETCOM followed by role-play as a more suitable method, 104 (60.5%) students found small group discussion a good technique, while some others 83 (48.3%) found one-way lecture by the teacher as an active method 76 (44.2%) participants found video clips from movies and internet more effective and interesting learn with fun method, 74 (43%) respondents found debate by students on different topics of AETCOM as a thought-provoking method (Figure 2). Barna Ganguly et al, in their study reported that most students preferred to have case scenario-based teaching. Other teaching methods preferred were role play and audio-visual film-based teaching. Student-centric modalities of teaching are beneficial for learning AETCOM competencies.

Regarding the assessment of AETCOM competencies in the curriculum following were the findings of our study, maximum participants 92 (53.5%) participants felt both summative assessment (SA) and formative assessment (FA) are essential for the complete evaluation of AETCOM proficiencies while some 68 (39.5%) students opined that FA is adequate and likewise some others 56 (32.6%) participants felt only SA would suffice (Figure 3).

In other studies, FA was preferred over both FA and SA. A smaller number of students supported only SA. Peer assessment was also preferred by the students. In the study carried out by Rekha et al, most respondents opined FA was the most appropriate method for assessing AETCOM skills. Some suggested SA as better.[16] FA is a continuous process; it gives feedback and facilitates learning. SA is at the end of learning; it determines overall achievement hence conducting both FA and SA is justifiable.

CONCLUSION

In the present study participants reported inclusion of the AETCOM competency module in the MBBS curriculum is significant because it helped them improve their communication skills. Participants also reported that Bioethics in the syllabus develops their ability to identify underlying ethical problems in medical practice and make decisions based on acceptable moral concepts.

Students believed that proper counselling and advice by doctors regarding medicine storage and adverse effects to the patient can help better outcomes and avoidance of misunderstanding, so developing this skill through the AETCOM module is very useful. 34% of participants reported being stressed during exams because learning these competencies was time-consuming and added burden to the already existing heavy curriculum.

These findings draw the attention of all stakeholders for a revision in the implementation of the module. Participants also reported that student-centric teaching modalities like simulated cases, interactive lectures, video clips and group discussions are beneficial for learning AETCOM competencies. Students consider both FA and SA to be

equally important for learning AETCOM skills hence though time-consuming conducting both FA and SA is justifiable.

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REFERENCES

1. Sahadevan S, Kurian N, Mani AM, Kishor MR, Menon V. Implementing competency-based medical education curriculum in undergraduate psychiatric training in India: Opportunities and challenges. Asia-Pac Psychiatry Off J Pac Rim Coll Psychiatr. 2021;13(4):12491.
2. Noone PH, Konapur KS, Mehta G, Kumar K, Prasad M, Reddy JN. Summary and Reflection on the Introductory Implementation of Attitude, Ethics and Communication Skills (AETCOM) Module. Medico-Legal Update. 2025;25(1):64.
3. Nayak V, Nayak KR, Goyal S, Jain S, Prabhath S, Palimar V, Komattil R. Tangible impact of patient communication modules on medical students and interns. Adv Physiol Edu. 2024;48(1):40-8.
4. Sahanaa C, Niranjan R, Pradeep K, Gopinath S, Dhanasekar E, Vendhan S, et al. Innovative AETCOM session on health care as a right: Experience at the medical college in Puducherry. J Educ Health Promot. 2023;12(1):386.
5. Jain T, Mohan Y, Maiya GR, Nesan GSCQ, Boominathan C, Eashwar AVM. Evaluating the effectiveness of 'AETCOM Module' on the medical interns posted in peripheral health centres of a tertiary care medical college in Kanchipuram, Tamil Nadu. J Fam Med Prim Care. 2022;11(6):2828–33.
6. Lal S, Sehgal P. Integration of Attitude, Ethics and Communication Competencies into Competency-based UG Curriculum. Indian J Community Med Off Publ Indian Assoc Prev Soc Med. 2022;47(1):4–7.
7. Udgiri R, Ganganahalli P. Perceptions of Attitude, Ethics and Communication (AETCOM) Modules Among Indian Medical Graduates in Their First Professional Year: An Educational Observational Study. Cureus. 2020;16(7):64611.
8. Modi JN, Gupta P, Singh T. Competency-based medical education, entrustment and assessment. Indian Pediatr. 2015;52(5):413–20.
9. Sharma V, Aggarwal M, Kumari P, Parashar L, Bhati RK, Singh A, Gupta PK. Impact of AETCOM module about autonomy, empathy and equanimity on ensuing clinical practice: Perceptions of medical undergraduates. Indian J Physiol Pharmacol. 2024;68(4):344.
10. Verma A, Shete S. Perceptions of 1st-year MBBS students and 1st-year medical faculties toward AETCOM-based medical curriculum. Natl J Physiol Pharm Pharmacol. 2024;14(3):592–5.
11. Sharma V, Aggarwal M, Kumari P, Parashar L, Bhati RK, Singh A, et al. Impact of AETCOM module about autonomy, empathy and equanimity on ensuing clinical practice: Perceptions of medical undergraduates. Indian J Physiol Pharmacol. 2024;68(4):344–9.
12. Ganguly B, D'Souza R, Nunes R. Challenges in the Teaching–Learning Process of the Newly Implemented Module on Bioethics in the Undergraduate Medical Curriculum in India. Asian Bioeth Rev. 2022;15(2):155–68.
13. Cross AJ, Elliott RA, Petrie K, Kuruvilla L, George J. Interventions for improving medication-taking ability and adherence in older adults prescribed multiple medications. Cochrane Database Syst Rev. 2020;8(5):2419.
14. Lowe D, Ryan R, Santesso N, Hill S. Development of a taxonomy of interventions to organise the evidence on consumers' medicines use. Patient Educ Couns. 2011;85(2):101–7.
15. Nieuwlaat R, Wilczynski N, Navarro T, Hobson N, Jeffery R, Keepanasseril A, et al. Interventions for enhancing medication adherence. Cochrane Database Syst Rev. 2014;20(11):6711.
16. Shanmugam J, Ramanathan R, Kumar M, Sridhar MG, Palanisamy KT, Narayanan S. Perspectives of Indian medical students regarding the competency based medical education curriculum – A qualitative, manual, theoretical thematic content analysis. Ann Natl Acad Med Sci India. 2024;60(3):206–12.

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