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Original Research Article

Evaluating the effectiveness of communication skills teaching in phase II MBBS students of a tertiary care teaching hospital in Northern India

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ABSTRACT

Background: Communication skills are an essential component of medical practice and are incorporated into undergraduate training through AETCOM modules. This study evaluated the effectiveness of structured communication skills teaching among Phase II MBBS students.
Methods: This educational intervention study was conducted among phase II MBBS students at Government Medical College, Jammu. Students underwent pre-intervention assessment, followed by structured training using AETCOM Module 2 through lectures and role-play. Post-intervention assessment was done using the Kalamazoo essential elements communication checklist (KEECC-A) and Communication Skills attitude scale. Data were summarized using frequencies and percentages.
Results: A total of 168 Phase II MBBS students participated in the communication skills training and attitude assessment. Post-intervention, students demonstrated a more positive attitude towards communication skills, with the majority recognizing communication as an essential component of effective medical practice and an important competency alongside medical knowledge. Kalamazoo essential elements communication checklist assessment was completed by 145 students which revealed strongest performance in information gathering, information sharing, and relationship building. However, comparatively lower performance was observed in understanding patient and family perspectives, reaching agreement, providing closure, and demonstrating empathy, indicating areas requiring further reinforcement.
Conclusions: Structured communication skills training improves attitudes and competencies among medical students. Early integration of such training is essential for effective patient care.

Keywords: Communication skills, AETCOM, MBBS students, Medical education

INTRODUCTION

AETCOM modules are designed to provide medical students with the interpersonal tools necessary for successful clinical practice.[1,2] Research indicates that effective doctor-patient interaction directly leads to higher patient satisfaction, better treatment adherence, and improved health outcomes.[3-16] Common barriers to establishing this rapport include the use of complex medical jargon, language differences, and time constraints during consultations.[10,11] Patients generally prefer clinicians who are empathetic, compassionate, and non-judgmental.[1-12] While traditional medical education focused almost exclusively on theoretical knowledge, the National medical commission (NMC) now mandates communication training via AETCOM modules.[2-15] Structured models such as the Calgary–Cambridge and SEGUE frameworks provide the benchmarks for this training.[13,14] Recent evaluations have demonstrated significant improvements in student competencies and

professional attitudes following these interventions.[5-9] The national medical commission has mandated that the teaching of communication skills and medical ethics should be included in the medical curriculum from 2019 through its AETCOM modules. As these curricular changes are recent, there is a need to evaluate the effectiveness of communication skills of phase two MBBS students and their attitude towards it.

The reason for selecting phase two MBBS students is that these students have just started their clinical posting and this type of training would benefit them in performing better in clinical history taking and patient care in the long run.

METHODS

This was an educational interventional study conducted among second phase MBBS students by the department of pharmacology, GMC Jammu. This study was conducted over a period of two months from the month of July 2023 to August 2023, during which the assessment and evaluation were carried out.

A structured questionnaire was developed based on the Communication skills attitude scale (CSAS) described by Rees et al and the communication domains outlined in the Kalamazoo consensus statement. Relevant items were adapted and modified to suit the study objectives and relevant educational context.[23,24]

This study was divided into three phases pre-intervention period, intervention period and post-intervention period. In the pre intervention period, faculty/teachers gave the training to assess the students using the Kalamazoo essential element communication checklist KEECC A which has seven components: Building a relationship, opening a discussion, gathering information, understanding the patient's perspective, sharing information, reaching an agreement and providing closure. Each domain was scored on a 1 to 5 Likert-type scale.

The numerical scores corresponded to qualitative performance levels, viz. 1 (poor), 2 (fair), 3 (good), 4 (very good) and 5 (excellent) and conducted AETCOM Module 2: Foundations of communication. In the intervention period, students were trained for AETCOM communication module 2 through didactic lectures and role play sessions conducted by faculty members and postgraduates.

In the post-intervention period students were divided into different groups and they were given common clinical conditions for which they were given one day to prepare and the next day they performed role plays and were finally assessed again using the same check list KEECC-A for their communication skill as used in pre-intervention period. Communication skill attitude scale was used for assessing their attitude towards the AETCOM module pertaining to communication skills.

Inclusion criteria

All phase two MBBS students willing to participate in the study were included in the study after getting an informed consent.

Exclusion criteria

Those students who were absent and not willing to participate were excluded from the study.

RESULTS

A total of 168 second-phase MBBS students participated in the study. The mean age of the participants was 20.4±1.1 years, with most students belonging to the 20-21 years age group (60.1%). Females constituted 56.0% (n=94) and males 44.0% (n=74). While all 168 students completed the CSAS, 145 students completed the Kalamazoo communication skills assessment and were included in the final analysis.

Table 1: Demographic characteristics of study participants (n=168).

Variables	Frequency (N)	Percentage (%)
Gender		
Male	74	44.0
Female	94	56.0
Age group (years)		
18-19	41	24.4
20-21	101	60.1
22-23	26	15.5

Students demonstrated a highly positive attitude towards communication skills. Post-intervention, there was an increase in the proportion of students strongly agreeing that communication skills are essential for being a good doctor and are as important as medical knowledge.

Additionally, fewer students questioned the value of learning communication skills. Most students believed that communication skills help in respecting patients and are worth learning. Following the intervention, interest in communication skills increased, with more students reporting that learning communication skills was interesting and important despite academic workload.

Students reported that communication skills training positively influenced teamwork and patient interactions. Post-intervention responses showed improved confidence in communicating with patients and a greater tendency to perceive communication skills learning as enjoyable and beneficial. The intervention enhanced students' awareness of professional communication, patient rights, confidentiality, and informed consent. Students also demonstrated greater appreciation of communication skills in maintaining respectful relationships with colleagues and patients. Students increasingly recognized the importance of communication skills within medical education. Post-

intervention findings suggest improved the awareness of personal communication limitations and a stronger belief that communication training is an essential part of becoming a competent doctor.

Table 2: Questionnaire (Q1-Q4).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Q1. Good doctor needs good communication skills	Pre	1 (0.6)	1 (0.6)	0 (0.0)	10 (6.0)	156 (92.9)
	Post	0 (0.0)	0 (0.0)	3 (1.8)	6 (3.6)	159 (94.6)
Q2. I cannot see the point in learning communication skills	Pre	131 (78.0)	21 (12.5)	6 (3.6)	9 (5.4)	1 (0.6)
	Post	138 (82.1)	21 (12.5)	7 (4.2)	1 (0.6)	1 (0.6)
Q3. Nobody will fail medical degree for poor communication	Pre	18 (10.7)	39 (23.2)	54 (32.1)	48 (28.6)	9 (5.4)
	Post	23 (13.7)	30 (17.9)	63 (37.5)	44 (26.2)	8 (4.8)
Q4. Communication skills as important as medical knowledge	Pre	2 (1.2)	4 (2.4)	11 (6.5)	53 (31.5)	98 (58.3)
	Post	2 (1.2)	3 (1.8)	5 (3.0)	45 (26.8)	113 (67.3)

CSAS=Communication skills attitude scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

Table 3: Questionnaire (Q5-Q8).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Q5. Helps respect patients	Pre	2 (1.2)	3 (1.8)	8 (4.8)	42 (25.0)	113 (67.3)
	Post	1 (0.6)	1 (0.6)	2 (1.3)	45 (26.7)	119 (70.8)
Q6. I have not got time to learn communication skills	Pre	28 (16.7)	68 (40.5)	39 (23.2)	26 (15.5)	7 (4.2)
	Post	33 (19.6)	67 (39.9)	43 (25.6)	18 (10.7)	7 (4.2)
Q7. Learning communication skills is interesting	Pre	4 (2.4)	1 (0.6)	16 (9.5)	88 (52.4)	59 (35.1)
	Post	3 (1.8)	4 (2.4)	13 (7.7)	49 (29.2)	99 (58.9)
Q8. Cannot be bothered to attend communication sessions	Pre	28(16.7)	40(23.8)	37(22.0)	43(25.6)	20(11.9)
	Post	31 (18.5)	42 (25)	40 (23.8)	43 (25.6)	12 (7.1)

CSAS=Communication skills attitude scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

Table 4: Questionnaire (Q9-Q12).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A (%)	SA N (%)
Q9. Helps team working skills	Pre	1 (0.6)	1 (0.6)	4 (2.4)	39 (23.2)	123 (73.2)
	Post	2 (1.2)	0 (0.0)	4 (2.4)	29 (17.3)	133 (79.2)
Q10. Improved ability to communicate with patients	Pre	2 (1.2)	2 (1.2)	6 (3.6)	41 (24.4)	117 (69.6)
	Post	0 (0.0)	2 (1.2)	3 (1.8)	18 (10.7)	145 (86.3)
Q11. Teaching states the obvious and complicates it	Pre	16 (9.5)	63 (37.5)	62 (36.9)	18 (10.7)	9 (5.4)
	Post	22 (13.1)	47 (28.0)	81 (48.2)	7 (4.2)	11 (6.5)
Q12. Learning communication skills is fun	Pre	5 (3.0)	3 (1.8)	39 (23.2)	81 (48.2)	40 (23.8)
	Post	2 (1.2)	6 (3.6)	28 (16.7)	65 (38.7)	67 (39.9)

CSAS=Communication skills attitude scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

The majority of students considered communication skills to be a valuable lifelong competency. Following the intervention, students demonstrated greater appreciation of communication skills beyond academic examinations and acknowledged their relevance in future clinical practice. Most students strongly disagreed that communication skills training should be restricted to psychology students. This finding highlights the widespread acceptance of communication skills as an integral component of undergraduate medical education.

Table 5: Questionnaire (Q13-Q16).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Q13. Learning communication skills is too easy	Pre	3 (1.8)	26 (15.5)	75 (44.6)	49 (29.2)	15 (8.9)
	Post	0 (0.0)	15 (8.9)	55 (32.7)	67 (39.9)	31 (18.5)
Q14. Helps respect colleagues	Pre	2 (1.2)	2 (1.2)	10 (6.0)	42 (25.0)	112 (66.7)
	Post	1 (0.6)	7 (4.2)	2 (1.2)	33 (19.6)	125 (74.4)
Q15. Difficult to trust non-clinical lecturers	Pre	55 (32.7)	61 (36.3)	31 (18.5)	17 (10.1)	4 (2.4)
	Post	68 (40.5)	49 (29.2)	33 (19.6)	10 (6.0)	8 (4.8)
Q16. Helps recognize confidentiality and consent rights	Pre	1 (0.6)	5 (3.0)	8 (4.8)	55 (32.7)	99 (58.9)
	Post	1 (0.6)	1 (0.6)	4 (2.4)	40 (23.8)	122 (72.6)

CSAS=Communication skills attitude scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

Table 6: Questionnaire (Q17-Q20).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Q17. Better image if more like a science subject	Pre	10 (6.0)	30 (17.9)	52 (31.0)	49 (29.2)	27 (16.1)
	Post	3 (1.8)	22 (13.1)	40 (23.8)	34 (20.2)	69 (41.1)
Q18. Good idea to learn communication skills	Pre	5 (3.0)	3 (1.8)	32 (19.0)	66 (39.3)	62 (36.9)
	Post	0 (0.0)	5 (3.0)	20 (11.9)	48 (28.6)	95 (56.5)
Q19.communication skills are needed to be a good doctor	Pre	3 (1.8)	6 (3.6)	37 (22.0)	66 (39.3)	56 (33.3)
	Post	5 (3.0)	6 (3.6)	17 (10.1)	55 (32.7)	85 (50.6)
Q20. Hard to admit communication problems	Pre	13 (7.7)	40 (23.8)	63 (37.5)	45 (26.8)	7 (4.2)
	Post	27 (16.1)	47 (28.0)	60 (35.7)	20 (11.9)	14(8.3)

CSAS=Communication skills attitude Scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

Table 7: Questionnaire (Q21-Q25).

Questions	Phase	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Q21. Useful learning communication skills in medical degree	Pre	3 (1.8)	5 (3.0)	3 (1.8)	51 (30.4)	106 (63.1)
	Post	11 (6.5)	25 (14.9)	6 (3.6)	30 (17.9)	96 (57.1)
Q22. Exams matter more than communication	Pre	22 (13.1)	43 (25.6)	47 (28.0)	43 (25.6)	13 (7.7)
	Post	42 (25.0)	50 (29.8)	43 (25.6)	26 (15.5)	7 (4.2)
Q23. Difficult to take communication learning seriously	Pre	23 (13.7)	58 (34.5)	48 (28.6)	32 (19.0)	7 (4.2)
	Post	50 (29.8)	62 (36.9)	31 (18.5)	11 (6.5)	14 (8.3)
Q24. Communication is a lifelong skill	Pre	1 (0.6)	1 (0.6)	9 (5.4)	29 (17.3)	128 (76.2)
	Post	2 (1.2)	2 (1.2)	8 (4.8)	17 (10.1)	139 (82.7)
Q25. Communication skills should be left to psychology students	Pre	129 (76.8)	23 (13.7)	12 (7.1)	2 (1.2)	2 (1.2)
	Post	128 (76.2)	20 (11.9)	10 (6.0)	2 (1.2)	8 (4.8)

CSAS=Communication skills attitude scale; SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree; Pre=Pre-intervention; Post=Post-intervention.

Kalamazoo communication assessment tables

Out of 168 students who completes CSAS attitude survey,145 completed the KEECC-A performance check list. The majority of responses were rated as good across all domains. Gathering information received the highest proportion of the good ratings, whereas understanding the patient's and family's perspective showed the highest poor ratings, indicating scope for improvement. Sharing information and communicating accurate information received the highest good ratings. Empathy, closure, and reaching agreement demonstrated comparatively lower ratings, highlighting important targets for future communication skills training.

Table 8: Distribution of performance ratings in relationship-building and information-gathering domains.

Domains	Poor N (%)	Fair N (%)	Good N (%)	Very good N (%)	Excellent N (%)
Builds a relationship	22 (15.2)	43 (29.7)	57 (39.3)	15 (10.3)	8 (5.5)
Opens the discussion	19 (13.1)	46 (31.7)	55 (37.9)	19 (13.1)	6 (4.1)
Gathers information	11 (7.6)	44 (30.3)	59 (40.7)	22 (15.2)	9(6.2)
Understands patient/family perspective	35 (24.1)	32(22.1)	59(40.7)	17 (11.7)	2 (1.4)

Table 9: Distribution of performance ratings in shared decision-making, empathy, and communication domains.

Domains	Poor N (%)	Fair N (%)	Good N (%)	Very good N (%)	Excellent N (%)
Shares information	11 (7.6)	43 (29.7)	62 (42.8)	21 (14.5)	8(5.5)
Reaches agreement	24 (16.6)	46 (31.7)	52 (35.9)	19 (13.1)	4(2.8)
Provides closure	26 (17.9))	45 (31.0)	49 (33.8)	16(11.0)	9 (6.2)
Demonstrates empathy	18 (12.4)	55 (37.9)	47 (32.4)	17 (11.7)	8 (5.5)
Communicates accurate information	15 (10.3)	43 (29.7)	59 (40.7)	21 (14.5)	7 (4.8)

Table 10: Clinician strengths and areas for improvement.

Domains	Best performance N (%)	Needs improvement N (%)
Builds a relationship	80 (55.2)	65 (44.8)
Opens discussion	80 (55.2)	63 (43.4)
Gathers information	89 (61.4)	55 (37.9)
Understands patient/family perspective	76 (52.4)	65 (44.8)
Shares information	89 (61.4)	54 (37.2)
Reaches agreement	73 (50.3)	70 (48.3)
Provides closure	73 (50.3)	71 (49.0)
Demonstrates empathy	72 (49.7)	70 (48.3)
Communicates accurate information	85(58.6)	58 (40.0)

Results showed that students performed best in sharing information and gathering information (61.4% each), followed by communicating accurate information (58.6%). Comparatively lower performance was observed in demonstrating empathy, providing closure, and reaching agreement, indicating areas requiring further reinforcement.

DISCUSSION

The findings of this study demonstrate a clear and substantial improvement in both attitudes and communication competencies among Phase II MBBS students following structured AETCOM-based training. The near-universal recognition (98%) of communication skills as essential for medical practice aligns strongly with previous Indian studies reporting similar attitudinal shifts after structured communication teaching interventions.[3,7,9] This reinforces the growing consensus that communication is no longer perceived as a "soft skill" but as a core clinical competency in undergraduate medical education.

A notable improvement was observed in students who considered communication skills to be equally important as medical knowledge (from 58% to 67.3%). This shift reflects the ongoing transition toward Competency-based medical education (CBME) advocated by the National medical commission.[2,15] Similar trends have been reported in other Indian studies where integration of AETCOM modules resulted in significant improvement in student perception regarding the clinical relevance of communication skill.[5-9] This change also mirrors global trends emphasizing patient-centered care as a fundamental pillar of medical professionalism.[6,16] When compared with international communication frameworks such as the

Calgary–Cambridge model and SEGUE framework, the present findings demonstrate parallel improvements in structured communication domains, particularly in information gathering and information sharing.[13,14] These domains are traditionally easier for early learners, as they closely resemble history-taking skills already emphasized in preclinical training. However, consistent with literature, deeper competencies such as empathy, understanding patient perspective, and shared decision-making remain relatively underdeveloped.[10,11,17]

The KEECC-A further highlights this pattern. Students performed well in "gathering information" and "sharing information," but showed comparatively weaker performance in "understanding patient and family perspectives" and "reaching agreement." This is consistent with prior evidence suggesting that novice learners tend to focus on biomedical data acquisition rather than psychosocial understanding of illness.[11,17,18] Similar deficiencies in empathy and patient-centered communication have been reported in longitudinal AETCOM evaluations, suggesting that single-cycle interventions may be insufficient for sustained behavioral change.[18]

An interesting finding in this study was the paradoxical increase in students reporting communication skills as "challenging" after intervention. This reflects improved cognitive awareness and deeper appreciation of the complexity of communication, rather than decreased competence. Comparable findings have been reported in structured training programs where learners initially underestimate communication complexity but later recognize its psychological and ethical dimensions, including consent, confidentiality, and shared decision-making.[10,16] Furthermore, the observed improvement in attitudes toward teamwork, professionalism, and patient respect aligns with earlier findings that communication training enhances not only doctor–patient interaction but also inter-professional collaboration.[12,16] The increased perception of communication training as "interesting" and "important despite workload" is particularly encouraging, as motivation is a key determinant of skill retention.

The Kalamazoo domain analysis also revealed that while "building relationships" and "information gathering" were strengths, domains such as "providing closure," "reaching agreement," and "empathy" required further reinforcement. This distribution is consistent with findings from Desai et al, who reported similar gaps when pharmacology-integrated communication modules were introduced in undergraduate teaching.[17] This suggests that embedding communication training within clinical and pharmacology teaching may enhance contextual learning but still requires repeated reinforcement.

Previous literature further supports these findings, indicating that early structured communication training significantly improves patient-centered behaviours and long-term clinical competence when reinforced longitudinally.[19,20] Additionally, multi-institutional studies have shown that repeated simulation-based communication training produces more durable improvements compared to single-session intervention.[21] Emerging evidence also highlights the role of reflective learning and feedback-based OSCE integration in strengthening empathy and shared decision-making skills.[22]

Overall, the present study aligns with both national and international evidence that structured communication training improves student attitudes and foundational skills, but higher-order competencies such as empathy, negotiation, and patient perspective-taking require sustained, longitudinal reinforcement.

Limitations

This study was conducted in a single institution with a limited sample size, which may affect generalization. Self-reported responses may introduce response bias. Long-term retention of communication skills was not assessed.

CONCLUSION

The present study demonstrates that structured AETCOM-based communication skills training leads to a significant improvement in both attitudes and foundational communication competencies among Phase II MBBS students. There was a marked increase in students recognizing communication skills as essential for medical practice and as being equally important as medical knowledge, reflecting alignment with the competency-based medical education framework advocated by the National medical commission.

Assessment using the KEECC-A revealed that students showed strongest performance in information gathering, information sharing, and relationship building. However, comparatively lower performance in understanding patient and family perspectives, reaching agreement, providing closure, and demonstrating empathy highlights persistent gaps in higher-order communication competencies. Interestingly, the intervention also led to increased student awareness of the complexity of communication skills, with more learners perceiving them as challenging rather than simplistic. This shift indicates improved cognitive appreciation of ethical, emotional, and interpersonal dimensions of clinical communication. Additionally, improvements in attitudes toward teamwork, professionalism, and patient respect further reinforce the broader impact of structured communication training beyond doctor–patient interaction. Overall, while AETCOM-based training effectively strengthens attitudes and basic communication skills, the development of advanced competencies such as empathy, shared decision-making, and patient-centered understanding requires sustained, longitudinal reinforcement integrated throughout the undergraduate curriculum. Early and repeated exposure, along with continued clinical

reinforcement, is essential to ensure durable behavioral change and effective patient-centered care.

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