Original Article

Effect of an Interprofessional Approach on the Communication Skills of Undergraduate Medical Students

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Abstract

Background & Objective: Communication skills play a pivotal role in enhancing the clinical acumen of physicians. Formal training in this aspect is urgently needed in India due to increased patient-clinician conflicts. The present study aimed to assess the knowledge and attitude toward clinical communication skills among undergraduate medical students and provide training by an interprofessional approach.

Materials & Methods: This interventional study was conducted on 35 phase-two medical students who were assessed in terms of their knowledge and attitude toward communication skills. Following that, training workshops encompassing various interactive sessions were implemented by an interprofessional team. Categorical variables were expressed as numbers and percentages, and continuous variables were expressed as mean and standard deviation. Paired t-test was used to compare the mean scores at the significance level of $P<0.05$.

Results: The majority of the students (91.4%) opined that communication skills are essential for a medical practitioner. The mentors' assessment indicated an increase in the mean score of communication skills (17.8±2.47) after the interventional training workshops compared to the pre-intervention score (6.9±5.67; $P<0.05$). In addition, the post-training feedback revealed that 94.3% of the students believed that the training provided an insight into understanding the importance of having proper communication skills in fostering strong therapeutic patient care.

Conclusion: According to the results, the students had a positive attitude toward learning communication skills. Our findings emphasize the teaching of these skills through an integrated, interprofessional approach to make the learning experience more productive.

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Introduction

A medical professional is involved in an environment that demands close interaction with patients, their family, and the healthcare team. Currently, patients are better educated and are more informed about diseases and health matters owing to technological advancement, which has changed the dynamics of the doctor-patient relationship to some extent.(1) There is now an even greater need for physicians to be able to effectively communicate with and display a greatly caring attitude in the management of their patients. Effective skills focused on empathy and other 'soft skills' should be routinely taught andassessed throughout medical education.(2)

Beneficial doctor-patient relationships allow for the better identification of patients' needs.(3) As a profession, medicine relies on an individual's skills and expertise, while it is also dependent on efficient teamwork where relationships within the team and its communication outside the group towards the patient, their families, and the community become crucial.(4) Lack of effective communication between physicians and patients often leads to misunderstanding and unnecessary litigation.(5) Today, medical education must focus on the development of the interpersonal, communication, and teamwork skills that are essential for physicians to earn the trust, respect, and cooperation of patients and the members of the healthcare team through an interprofessional approach, which directly affects the quality of patient care and treatment.

There is a gap in the perception of medical undergraduates regarding essential interpersonal and soft skills in their interaction with patients on a daily basis. Therefore, suggested curriculum projects should be designed to improve the communication skills of medical students during their undergraduate

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years so that these students could refine and practice the learned skills throughout the five and a half years of bachelor of medicine and bachelor of surgery (MBBS) course and later on in their career. The Medical Council of India emphasizes implementing training on communication skills for Indian medical undergraduates, proposing a foundation course of one month beginning from the first year. The course is focused on communication skills training as one of the main objectives.(6) Research also suggests that an effective interprofessional approach in communication and collaboration could positively influence patient satisfaction and treatment outcomes.(7)

The present study aimed to assess the knowledge and attitude of undergraduate medical students regarding clinical communication skills by implementing communication skills training through an interprofessional approach and comparing the communication skills of the students before and after the training.

Materials and Methods

This educational-interventional study was conducted at A.J. Institute of Medical Sciences and Research Center in Mangalore, India to assess and train phase-two medical students on communication skills for four months. Ethical clearance was obtained from the Institutional Ethical Committee before the study (AJEC/REV/102/2018).

In total, 35 students were recruited via random sampling for the communication skills training after obtaining written informed consent. Randomization was performed by assigning numbers to 100 students of phase-two MBBS who were willing to participate, and 35 numbers were selected randomly using the lottery method. A single group of 35 participants were issued a validated pre-training questionnaire, followed by enrolment into an interprofessional workshop focused on communication skills and pre- and post-training assessments using simulated scenarios. There were no drop-outs during the course of the study.

The validated pre-training questionnaire was based on the modified communication skills and attitude scale (CSAS) which was handed to the students. The CSAS comprises of questions that measure positive and negative attitudes toward communication skills. The responses to each statement were recorded in the form of a Likert scale (strongly disagree to strongly agree).(8) The questions of the CSAS are depicted in Results section.

An interprofessional education (IPE) team comprised of community physicians, internal medicine specialists, psychiatrists, pediatricians, medical educators, soft skills experts, and non-teaching faculty was recruited for conducting the training sessions (Table 1).

Table 1: IPE team and their roles

Members	Role
Medical educators -1	-Designing the module
	-Mentor
Physicians -2	-Mentors
Senior physicians-2	-Judges for the debates
Community physicians-2	-Designing the training module
	-Mentoring
	-Video recordings
Psychiatrists -2	-Mentors
Pediatricians-2	-Mentors
Soft skills expert-1	-Pre-training and post-training questionnaire
Statistics analyst -1	-Data compilation
	-Statistical analysis
Non-teaching volunteers -4	-Simulated patients for role play
Students volunteers -4	-Video recording



Figure 1: Timeline of the Training Sessions conducted for the students

In training session one, a lecture highlighting the importance of communication skills in medicine was delivered by a medical educator. In session two, a role-play scenario was implemented, in which the students played the part of physicians individually. The non-teaching staff who had volunteered were also trained to play the role of simulated patients and were observed by the faculty involved in the study. The role-play session was filmed using video cameras after obtaining written informed consent from the students and volunteers. The videos were coded, and Google forms of the assessments were framed as well.

In part two of the second session, the students were assigned to the mentors who belonged to different disciplines of clinical medicine. The mentors were briefed and trained on student assessment within the communication skills framework, and the study group was assessed by these individuals using the pre-validated, adapted version of set the stage; elicit information; give information; understand the patient's perspective and end the encounter (SEGUE), which consisted of 20 items divided into four content areas. The SEGUE score of the students was recorded. The SEGUE scoring system ranges from a minimum score of -11 to a maximum score of 28. The items are rated +2 for excellent, +1 for average, 0 for absent, -1 for inadequate performances, and score -2 signified directedness / disrespectful tone (Appendix). (1) The SEGUE is used to facilitate the teaching and evaluation of communication skills in medical students. At the next stage, mentoring sessions were implemented in which each student was mentored about communication skills strengths and weaknesses based on the videotaped role-plays.

In session three, the SEGUE components were demonstrated via video-based real doctor-patient interaction, highlighting the verbal and non-verbal components of communication. The training of the students was based on experiential techniques (i.e., role-play and videotaped simulated patients). In session four, the students were divided into six teams, and a debate competition addressing different aspects of clinical communication skills was conducted. In session five, the students were re-assessed within the SEGUE framework with the simulated patients by the mentors, and their scores were recorded. In session six, a post-training questionnaire based on the CSAS was distributed, and verbal feedback was obtained.

Data analysis was performed in SPSS version 20,

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and the graphical representation of data was carried out in Microsoft Excel. Categorical variables were expressed as frequency and percentage, and continuous variables were presented as mean and standard deviation. Comparison of the SEGUE mean scores before and after the training workshop in the same group of the medical students (n=35) was also performed using paired t-test. In all the statistical analyses, the level of significance was set at P<0.05.

Results

In total, 35 students were enrolled in the study, including 13 males and 22 females with the mean age of 19.14 years. Among the subjects, 17 students (48.6%) answered the open question about their interpretation of soft skills as part of communication skills (Figure 2). Table 2 shows the knowledge and attitude of the medical students regarding communication skills in medicine.

Based on the SEGUE framework, the performance of the students was assessed by the mentors before and after the training program. According to the obtained results, the total and individual mean scores of SEGUE were significantly higher after the training compared to the mean scores before the training program (P<0.001) (Tables 3 & 4). Table 5 shows the post-training questionnaire responses.

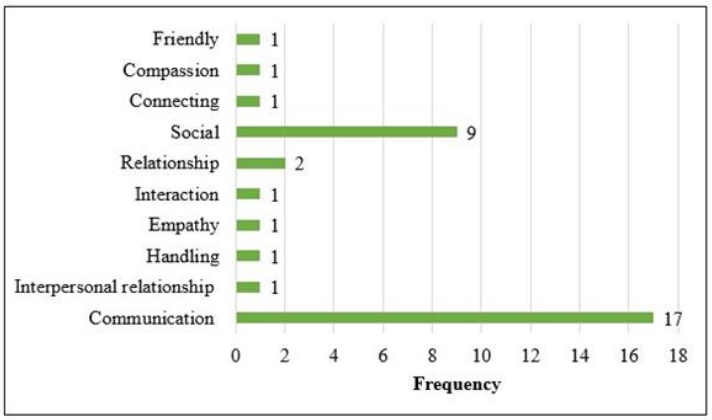


Figure2: Interpretation of soft skills

Table 2: Knowledge and Attitude of medical students towards communication skills in the medical field

Opinion	Strongly Disagree	Disagree	Can't Say	Agree	Strongly Agree
			n(%)		
Communication skills is important for a medical practitioner	-	-	-	3 (8.6)	32 (91.4)
Learning communication skills does not help in building a healthy relationship with patients	23 (65.7)	7 (20.0)	2 (5.7)	2 (5.7)	1(2.9)
Communicative skills play a vital role in making you a good doctor	-	-	1 (2.9)	9 (25.7)	25 (71.4)
Developing your communicative skills would not improve your ability to communicate with your patients	19 (54.3)	12 (34.4)	2 (5.7)	1(2.9)	1(2.9)
Developing communicative skills would help in improving your team-working skills	-	-	1 (2.9)	11 (31.4)	22 (62.9)
Possessing good communicative skills does not have any impact on patient care	18 (51.4)	13 (37.1)	1 (2.9)	2 (5.7)	1 (2.9)
Developing communicative skills is equally important as developing one's knowledge in medicine	1 (2.9)	-	2 (5.7)	17 (48.6)	15 (42.9)
Student would be interested in attending sessions on communicative skills	-	-	1 (2.9)	14 (40)	20 (57.1)

n, number; %, percentage

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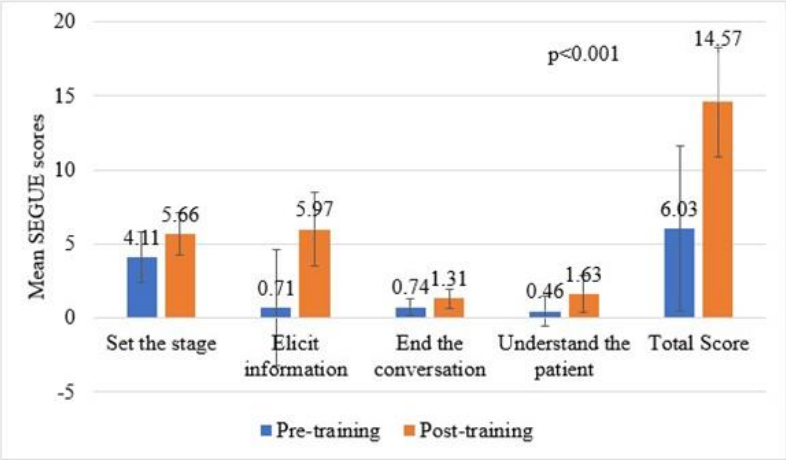


Figure 3:Pre- and post- training Student Scores based on SEGUE Framework

Table 3: Pre-training performance rating

Sr No.	Skill	Excellent Performance	Adequate Performance	Absent Performance	Inadequate Performance	Directedness/ Disrespectful tone
				n (%)		
1.	Maintain patient privacy	-	14 (40.0)	16 (45.7)	5 (14.3)	-
2.	Greet patient appropriately	-	23 (65.7)	12 (34.3)	-	-
3.	Make personal connection during visit	2 (5.7)	17 (48.6)	16 (45.7)	-	-
4.	Establish reason for visit	-	33 (94.3)	2 (5.7)	-	-
5.	Outline agenda for visit	1 (2.9)	30 (85.7)	4 (11.4)	-	-
6.	Elicit patient's view of health problem and/or progress	-	12 (34.3)	13 (37.1)	10 (28.6)	-
7.	Explore physical/ physiological factors	-	19 (54.3)	16 (45.7)	-	-
8.	Explore psychosocial/ emotional factors	-	2 (5.7)	20 (57.1)	13 (37.1)	-
9.	Discuss antecedent treatments	-	15 (42.9)	20 (57.1)	-	-
10.	Discuss how the health problem affects patient's life	-	5 (14.3)	24 (68.6)	6 (17.1)	-
11.	Discuss lifestyle issues / prevention strategies	-	3 (8.6)	32 (91.4)	-	-
12.	Avoid directive/ leading questions	-	-	15 (42.9)	20 (57.1)	-
13.	Give patient opportunity/ time to talk	-	19 (54.3)	4 (11.4)	12 (34.3)	-
14.	Listen. Give patient undivided attention	1 (2.9)	17 (48.6)	5 (14.3)	12 (34.3)	-
15.	Check/ clarify information	-	18 (51.4)	3 (8.6)	14 (40.0)	-
16.	Ask if there is anything else patient would like to discuss	-	5 (14.3)	30 (85.7)	-	-
17.	Greet appropriately	-	21 (60.0)	14 (40.0)	-	-
18.	Acknowledge patient's accomplishments/ progress/challenges	-	9 (25.7)	26 (74.3)	-	-
19.	Express caring, concern, empathy	1 (2.9)	11 (31.4)	23 (65.7)	-	-
20.	Maintain a respectful tone	-	29 (82.9)	-	6 (17.1)	-

n,number;%, percentage

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Table 4: Post-training performance rating

Sr No.	Skill	Excellent Performance	Adequate Performance	Absent Performance	Inadequate Performance	Directedness/ Disrespectful tone
				n (%)		
1.	Maintain patient privacy	8 (22.9)	21 (60.0)	6 (17.1)	0 (0)	0 (0)
2.	Greet patient appropriately	15 (42.8)	15 (42.8)	5 (14.2)	0 (0)	0 (0)
3.	Make personal connection during visit	8 (23.1)	24 (67.9)	3 (9.0)	0 (0)	0 (0)
4.	Establish reason for visit	17 (48.9)	18 (51.1)	0 (0)	0 (0)	0 (0)
5.	Outline agenda for visit	4 (11.8)	31 (88.2)	0 (0)	0 (0)	0 (0)
6.	Elicit patient's view of health problem and/or progress	5 (12.9)	16 (45.6)	9 (26.5)	5 (15.0)	0 (0)
7.	Explore physical/ physiological factors	4 (10.0)	24 (69.9)	7 (20.1)	0 (0)	0 (0)
8.	Explore psychosocial/ emotional factors	2 (5.6)	22 (61.7)	11 (30.0)	1 (2.7)	0 (0)
9.	Discuss antecedent treatments	4 (12.8)	21 (59.8)	10 (27.4)	0 (0)	0 (0)
10.	Discuss how the health problem affects patient's life	0 (0)	23 (65.8)	8(23.7)	4 (10.5)	0 (0)
11.	Discuss lifestyle issues / prevention strategies	5 (13.9)	23 (64.5)	8 (21.6)	0 (0)	0 (0)
12.	Avoid directive/ leading questions	6 (17.8)	16 (46.5)	12 (35.7)	0 (0)	0 (0)
13.	Give patient opportunity/ time to talk	9 (24.9)	24 (68.9)	2 (6.2)	0 (0)	0 (0)
14.	Listen. Give patient undivided attention	4 (10.9)	26 (73.7)	2 (4.5)	4 (10.9)	0 (0)
15.	Check/ clarify information	4 (11.4)	25 (71.4)	4 (11.4)	2 (5.8)	0 (0)
16.	Ask if there is anything else patient would like to discuss	11(31.4)	23(65.7)	1 (2.9)	0 (0)	0 (0)
17.	Greet appropriately	9 (25.0)	26 (75.0)	0 (0)	0 (0)	0 (0)
18.	Acknowledge patient's accomplishments/ progress/challenges	0 (0)	29 (83.4)	6 (16.6)	0 (0)	0 (0)
19.	Express caring, concern, empathy	4 (10.9)	14 (40.5)	17 (48.6)	0 (0)	0 (0)
20.	Maintain a respectful tone	5 (13.4)	30 (86.6)	0 (0)	0 (0)	0 (0)

n,number; %, percentage

Table 5: Post-training feedback responses

Opinion	Strongly Disagree	Disagree	Can't Say	Agree	Strongly Agree
			n (%)		
Communicative skills training would have had a better impact if it had been presented more like a science subject.	21 (60.0)	10 (28.6)	4 (11.4)	-	-
It was fun and interesting learning communicative skills.	-	-	-	4 (11.4)	31 (88.6)
My communicative skills were effective even before I underwent the communicative skills training.	9 (25.7)	11 (31.4)	5 (14.3)	9 (25.7)	1 (2.9)
The training has not brought any change in the way I communicate with my patients.	29 (82.86)	4 (11.4)	2 (5.7)	-	-
Communicative skills training has provided me with an insight into recognizing patients' rights regarding confidentiality and informed consent.	-	-	-	2 (5.7)	33 (94.3)

n, number; %, percentage

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Discussion

Proper communication skills are essential to clinical competence, which is considered paramount in health care. In the present study, the majority of the students believed that soft skills were associated with communication skills (48.6%). According to the results of the pre-training questionnaire based on the CSAS, the majority of the students opined that communication skills were crucial for medical practitioners (91.4%), exhibiting a positive attitude toward learning communication skills (57.1%). A study conducted by Tushar Ramesh Bagle et al. on 400 medical undergraduates indicated that 59.75% of the subjects considered communication skills to be essential to health care, and 75.75% intended to attend communication skills training sessions.(9)

In the current research, the mentors' assessment of the students based on the SEGUE framework showed significantly lower total and individual scores before the training compared to the post-training scores ($P<0.001$). This is consistent with the study by Brahmbhatt K. and Lodhiya K., which indicated that the total score of pre-training assessment (10.0±3.40) was significantly lower than the post-training score (16.1±2.87) ($P<0.001$).(5)

In the present study, the lower scores in the pre-training assessment could be due to the lack of exposure in clinical settings, and the competencies related to empathy had to be improved through frequent patient interaction. The IPE team assisted us in this regard by mentoring the students effectively and providing remediation. This was reflected in the improvement of the students' scores following the training program.

The mentors also noticed that a large number of the students (65.7%) scored low in the competency of 'avoiding direct questions', which demonstrated the low listening capacity of the students. Woods et al. have proposed the most logical explanation regarding the significant reduction of listening skills, which is an important attribute of communication skills, due to the cognitive overload of a trainee/student, particularly in simulated patient interviews.(10) The introduction of debates as part of the communication skills training process could promote teamwork and communication with a great improvisation in listening skills and an ability to convince the team and audience through the improvement of group dynamics. In this regard, Latif et al. recommended role-plays and debates as an experiential learning method to enhance students' communication skills by emphasizing critical thinking.(11)

In the post-training feedback of the present study, 88.6% of the participants enjoyed the mode of the training sessions, and 94.3% of the students strongly agreed that the training intervention provided an insight into recognizing patients' rights in terms of confidentiality and informed consent. Moreover, there was a clear understanding of the rationale for including communication as a component of clinical competence in the training program. Our findings emphasize that a combination of didactic and practical components encompassing experiential learning could have a significant, positive impact on the improvement of communication skills.

Limitations of the Study

There was no continuity in the training schedule due to the academic commitments of the students. Selecting and training the simulated patients was another challenge as some of the patients were known to the students. The real patient-doctor scenario could also differ from the simulated role-plays. Furthermore, the follow-up of the students could have accurately determine the effectiveness of the training program in the next phases of academic medical education.

Conclusion

In this study, a particular training program was conducted through simulated role-plays, debates, and evaluation of the medical undergraduates to emphasize the need for such structured sessions in medical schools where students could apply core communication skills that they have learned to newer and higher contexts with more complexities through

an interprofessional approach. Undergraduate and postgraduate medical students should receive training to hone their communication skills, and this need to be integrated into the medical curriculum. Further investigations using clinical encounters with real patients are required to evaluate students' communication skills in real-life contexts.

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Conflicts of interest

There is no conflict of interest in the present study by the authors.

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APPENDIX

Performance rating based on SEGUE framework.

SEGUE items	Rating
Set the stage	
1. Maintain patient privacy	–1, 0, 1
2. Greet patient appropriately	0, 1
3. Make a personal connection during visit (e.g., go beyond medical issues)	0, 2
4. Establish reason for visit (e.g., start with an open question)	0, 1
5. Outline agenda for visit (e.g., “anything else?”, issues, sequence)	0, 1, 2
Elicit information	
6. Elicit patient's view of the health problem and/or progress (ideas, concerns)	–1, 0, 1, 2
7. Explore physical/physiological factors (signs, symptoms)	0, 1, 2
8. Explore psychosocial/emotional factors (e.g., living situation, family relations, stress)	–1, 0, 1, 2
9. Discuss antecedent treatments (e.g., self-care, last visit, other care)	0, 1
10. Discuss how the health problem affects patient's life (e.g., quality of life)	–1, 0, 1, 2
11. Discuss lifestyle issues/prevention strategies (e.g., health risks)	0, 1
12. Avoid directive/leading questions	–2, –1, 0
13. Give patient opportunity/time to talk (e.g., do not interrupt)	–1, 0, 1
14. Listen. Give patient undivided attention (e.g., face patient, verbal acknowledgment, non-verbal feedback)	–1, 0, 1, 2
15. Check/clarify information (e.g., recapitulation, ask “how much”)	–1, 0, 1, 2
End the encounter	
16. Ask if there is anything else patient would like to discuss	0, 1
17. Greet appropriately	0, 1
Understand the patient's perspective	
18. Acknowledge patient's accomplishments/progress/challenges	0, 2
19. Express caring, concern, empathy	0, 1, 2
20. Maintain a respectful tone	–2, –1, 0

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