

Original Article

'Prescription talk' - Preparedness of Indian medical graduate to prescribe and communicate

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Received: 14 February 2025
Accepted: 06 May 2025
Epub Ahead of Print: 23 August 2025
Published:

DOI
10.25259/IJPP_79_2025

Quick Response Code:



ABSTRACT

Objectives: The competency-based medical education (CBME) curriculum is an outcome-based curriculum, and we are aware of the first batch of Indian medical graduates who are ready to become registered medical practitioners. It is time for us to determine whether they are prepared for the roles specified by the National Medical Commission. Doctor-patient interaction is crucial during the second half of the consultation to be a good communicator. These aspects are part of the training modules in the second Bachelor of Medicine, Bachelor of Surgery. However, there is a gap of over 2 years to the internship, which can lead to poor retention. Therefore, this study was conducted to assess the level of preparedness and improvement through intervention via demonstration and role-play.

Materials and Methods: An interventional study was conducted involving interns of a medical college. Pre-test scores for prescription writing and communication skills were measured to evaluate preparedness. Role-play and demonstration were utilised as interventions, and the post-test scores were measured by objective structured practical examination and objective structured clinical examination using a checklist. Confidence levels were also assessed. The results were analysed using the paired *t*-test and Wilcoxon signed-rank test with $P < 0.005$.

Results: Out of 33 participants from the first batch of CBME, there were 8 (24.2%) males and 25 (75.8%) females. Among them, 75.76% of participants had scores ranging from 50 to 70%, showing a need for improvement at baseline. This improved scores between 70 and 90% in 93.90% of participants after intervention, with a statistical significance of $P < 0.001$. The component scores improved following intervention for prescription writing from 6.0 ± 1.9 to 8.1 ± 0.8 and for communication skills in acute conditions (5.7 ± 1.5 – 7.0 ± 1.0), chronic conditions (5.9 ± 0.9 – 5.0 ± 1.5) and devices (7.0 ± 1.6 – 8.3 ± 1.0), which were statistically significant with $P < 0.001$. Confidence levels also increased following the intervention.

Conclusion: Preparedness is inadequate, showing poor retention, and there is a need to incorporate prescription and communication skills in interns' clinical postings.

Keywords: Communication, Demonstration, Prescription writing, Retention, Role-play

INTRODUCTION

Prescriptions are the most frequent medical intervention, following which patient counselling done by healthcare providers leads to enhanced medication education, which results in improved patient adherence.^[1,2] Poor medication adherence is an essential global problem and is often because of poor communication between physicians and patients.^[3] Patients who received face-to-face education about their prescribed medications demonstrated significantly

better medication adherence and higher satisfaction levels compared to those who received limited information or tele-education.^[4] Research showed that prescribing errors were the most prevalent, reported in up to 91% of prescribed medications, with dosing errors specifically occurring in up to 41% of cases.^[5]

Medical graduates need to learn communication skills as a core competency according to the regulations established by the Medical Council of India through their 1997 Graduate Medical Education guidelines^[6] and recently, the National Medical Commission (NMC) also released the guidelines for Prescription in Professional Conduct Regulations (2022).^[7] Communication skills which was just a desirable attributes has evolved to be an essential competency.^[8] Medical graduates must demonstrate competency in their prescription abilities to deliver instructions for patients, along with caretakers, along with reviewing of safety warnings for prescribed drugs.^[6]

Patients rely on physicians as their main source of medical information for learning about medication risks, while also discovering adverse drug reactions (ADRs). Research indicates that discussions about risks and adverse drug events occur in <30% of patient–healthcare provider interactions, which leads to dissatisfaction or non-compliance with medication therapy.^[1]

The ineffective medication prescription communication was caused by healthcare practitioners using medical jargon and their inability to deliver prescriptions in simple language, while also failing to listen actively or help patients respond.^[6]

Learning styles among students differ significantly when it comes to acquiring communication skills.^[8] Multiple teaching approaches utilising experiential methods such as role-plays and patient tracking along with simulations and small group discussions have been developed for communication skill training, and role-plays emerged as the most popular method.^[6] Students are able to realise the deficits of safe drug therapy during this simulated patient-based learning.^[9]

Despite having plenty of complaints and litigations due to issues in communication skills, it was never considered for the comprehensive training.^[8]

The essential skills of prescription talk are imbibed in the 2nd Bachelor of Medicine, Bachelor of Surgery (MBBS) curriculum. The Competency based medical education (CBME) curriculum expects the Indian medical graduate (IMG) to retain and perform all the skills in real life situations. However, there may be an expected decay of skills over a period from the 2nd phase to internship and further as an IMG. Hence, this study was conducted to assess the retention capacity and how it can be improved with reinforcement during the internship.

MATERIALS AND METHODS

Study design

This was an interventional study conducted from October to November 2024 to assess the prescribing and communication skills among interns of a medical college.

Study population and sampling

Using convenience sampling, 33 interns belonging to the first batch of MBBS CBME were enrolled.

Inclusion criteria

The participants who read the information regarding the study and gave their written consent were included in the study.

Exclusion criteria

Interns other than the CBME batch were not included.

Study tool

Participants' prescribing and communication skills were assessed using the standard NMC guidelines and observation checklist, respectively. Communication skills for acute condition, chronic condition and a device (metered-dose inhaler) were observed.

The global scores and component scores were assessed at both the base level and after training using a checklist, which was validated by a group of experts. Simultaneously, the confidence levels were self-assessed using a 3-point Likert scale at 3 levels.

Study intervention

Faculty from the department of pharmacology did role-play and demonstration of prescription writing and communication skills.

Data collection procedure

The demographic data related to age, gender and the clinical postings were collected. Participants were first sensitised to the study by briefing all the components.

Baseline scores were collected on the day of enrolment to assess the completeness of prescription writing by objective structured practical examination (OSPE); participants were made to write prescriptions of their choice, which were recently written during clinical postings, and this was analysed for completeness (score of 10).

Similarly, baseline scores were collected for communication skills by objective structured clinical examination (OSCE);

non-teaching faculties who are trained as simulated patients were utilised for communication skills for the 3 components (score of 10 each). For acute conditions, the same prescription was utilised, whereas for chronic conditions, choice was provided with ready prescriptions like diabetes, hypertension, tuberculosis and epilepsy. Of the multiple devices, the metered-dose inhaler was selected. The observers recorded the scores using a checklist. The researcher was not a part of the data collection to avoid bias. The method is represented schematically in Figure 1.

To assess the preparedness, the global scores with the predefined criteria of <50% (unsatisfactory), 51–70% (needs improvement), 71–90% (satisfactory) and >90% (exceeds expectation) were adopted.

After 15 days, all the participants were trained by the faculty for ideal prescription writing as per the NMC and role-play as per the checklist for all three components of communication skills. OSCE and OSPE were repeated for the post-test scores.

Confidence levels were self-assessed at baseline, after pre-test and after post-test on a 3-point Likert scale. During the study period, care was taken to maintain data privacy and confidentiality measures.

Statistical analysis

Descriptive statistics were utilised to calculate the mean and standard deviation. An independent samples *t*-test was done for comparison between genders. The Wilcoxon signed-rank test was done to compare global scores between two groups. A paired *t*-test was done to compare pre- and post-scores. The Friedman test was done to compare confidence levels between two groups at multiple levels. The *P* value of ≤ 0.05 was considered as statistically significant.

RESULTS

Among the 33 participants enrolled in the study, males were 8 (24.2%) and females were 25 (75.8%). They all belonged to a single batch of CBME with an age range of 22–25 years. Most of the participants had completed 6 months of internship and the major postings. There was no significant difference between genders in pre- and post-test scores as shown in Table 1.

As per the predefined criteria, the global scores in 75.76% of the participants at baseline were not up to the specifications of IMG and needed improvement, which shows that the retention skills over a period from 2nd MBBS to internship are poor. Demonstration improved this to a satisfactory level following the intervention and role-play to 93.9%, which is statistically significant as shown in Table 2 and Figure 2.

We considered four components as part of the prescription talk in the study. We found a significant improvement

Table 1: Comparison of mean scores between the genders pre- and post-intervention.

Component	Male	Female	<i>t</i>	<i>P</i> -value*
Pre				
Prescription	6.0±1.7	5.9±2.0	0.075	0.940
Acute	5.0±1.1	5.9±1.6	-1.478	0.150
Chronic	5.9±0.9	5.0±1.5	1.709	0.097
Device	7.3±1.1	7.0±1.8	0.523	0.605
Total	24.3±2.8	23.8±4.2	0.306	0.761
Percentage	60.6±6.9	59.4±10.6	0.306	0.761
Post				
Prescription	7.9±0.7	8.2±0.8	-0.681	0.501
Acute	6.8±1.0	7.2±1.0	-0.980	0.334
Chronic	7.2±1.0	7.3±1.1	-0.216	0.831
Device	8.3±1.0	8.4±1.0	-0.307	0.761
Total	30.1±1.6	31.0±2.5	-0.895	0.378
Percentage	75.3±4.0	77.5±6.3	-0.895	0.378

*Independent sample *t*-test

in prescription writing after intervention with the demonstration technique. Similar improvement were also observed for the communication skills with role play as shown in Table 3 and Figure 3.

We also assessed the confidence levels for prescribing and communication using a Likert scale, which also improved following the intervention, as shown in Figure 3.

DISCUSSION

The traditional curriculum focused primarily on knowledge acquisition with a bit of skills without touching on soft skills which are not sufficient to provide a holistic healthcare as a doctor of first contact. A medical student can access multiple competency domains that integrate knowledge combined with communication skills in various social and cultural contexts after the adaptation of CBME.^[10]

The CBME curriculum, which is an outcome-based curriculum, is expected to have the first batch of IMG. Measuring the outcomes of these roles is practically impossible; hence, we took doctor–patient interaction, especially in the second half of the consultation – prescription talk, which is most essential for an IMG. The pre-test scores at baseline were considered the preparedness of IMG for prescription talk. The global scores in this study were between 50 and 70% (needs improvement) in 75.76%, which shows underpreparedness. Following intervention, it improved to 70–90% (satisfactory) in 93.9%. This shows that the decay of skills can be refreshed by incorporating these skills as part of an internship. There was no difference in pre- and post-test scores between genders. Research reveals that junior

Table 2: Global scores of participant's pre- and post-intervention.

Scores (%)	Nos	Pre (%)	Nos	Post (%)	Z-value	P-value*
<50	3	9.091	0	0	5.07	<0.001
50-70	25	75.76	1	3		
70-90	5	15.15	31	93.9		
>90	0	0	1	3		
Total	33	100	33	100		

*Wilcoxon signed rank test

Table 3: Component wise comparison of scores pre- and post-intervention.

Component	Pre	Post	t	P-value*
Prescription writing	6.0±1.9	8.1±0.8	-7.595	<0.001
Acute condition	5.7±1.5	7.1±1.0	-5.270	<0.001
Chronic condition	5.2±1.4	7.3±1.0	-9.781	<0.001
Device- MDI	7.0±1.6	8.3±1.0	-5.445	<0.001
Total	23.9±3.9	30.8±2.3	-12.458	<0.001
Percentage	59.7±9.7	76.9±5.9	-12.458	<0.001

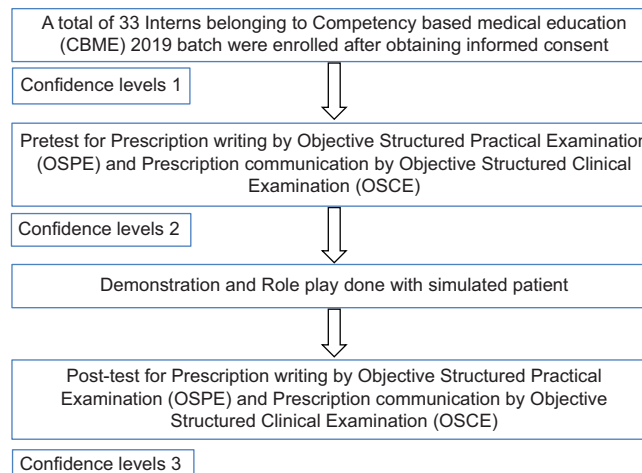
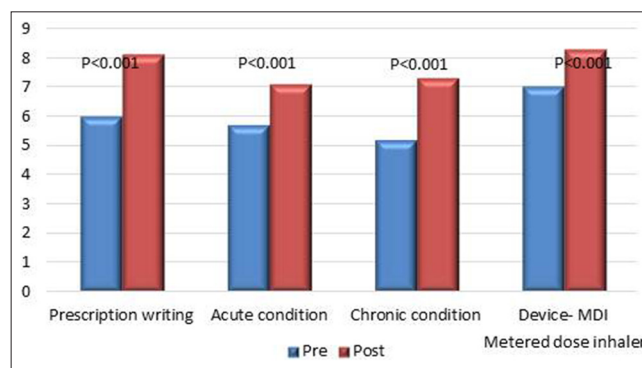
*Paired sample t-test, MDI: Metered-dose inhaler

doctors' awareness of essential pharmacological proficiency for proper drug prescribing remains insufficient.^[11]

Prescription writing which is a certifiable skill in 2nd professional needs to maintain the proficiency till internship and as an IMG. However, in this study, the scores were 6.0 ± 1.9 out of 10 at baseline, which is not satisfactory. They were poor at mentioning the doctor's details completely, including the date. The drugs were also not written in generic names and uppercase, and the instructions to pharmacists and patients were missing, which were poorly legible. This was similar to a study conducted on prescriptions.^[12] The reinforcement was planned with the help of the demonstration session, which improved the scores to 8.1 ± 0.8 , which is statistically significant. These types of studies are conducted more on students than interns, with similar results in one study^[12] and better results in another study.^[13] The challenges are taken care of in the curriculum design,^[13] but still feel yet to be accomplished.

A good communicator is one who can convey the information written on the prescription effectively to the patient, which can improve treatment adherence and prevention of adverse effects. In this study, we decided on OSCE for 3 conditions: Acute or simple, chronic condition and explanation of the device metered-dose inhaler (MDI) with the help of an observation checklist.

The patients usually want to know about the condition they are suffering from. Hence, during a talk on prescription, it is ideal to explain the symptoms/disease, the drug's indication,

**Figure 1:** Flow chart showing the method of conducting the study.**Figure 2:** Comparison of scores pre- and post-intervention.

route, dose, method of administration, duration, ADR and precautions to be taken. This is followed by summarising and reconfirming whether the instructions are clearly understood through questioning. The scores improved from baseline of 5.7 ± 1.5 to 7.1 ± 1.0 after role play which was statistically significant. Very few explained the ADR and precautions. The concerns, understanding or summarising were poorly done. This shows there is a decay of skills over time and can be retained with reinforcement at regular intervals. Similar results for role-play were observed, and the participants also gave positive feedback on the session.^[13,14]

Chronic conditions require treatment for long periods, which are associated with ADR and drug interactions, leading to poor adherence, affecting the outcome. They were poor at explaining the drugs and non-pharmacological management. Information has to be provided about the sequel of disease and drugs to improve patient compliance, which was not addressed adequately. These lacunae were attended by giving feedback and a role-play, which improved the scores from 5.2 ± 1.4 at baseline to 7.3 ± 1.0 . This can be much better with peer role-play.^[15]

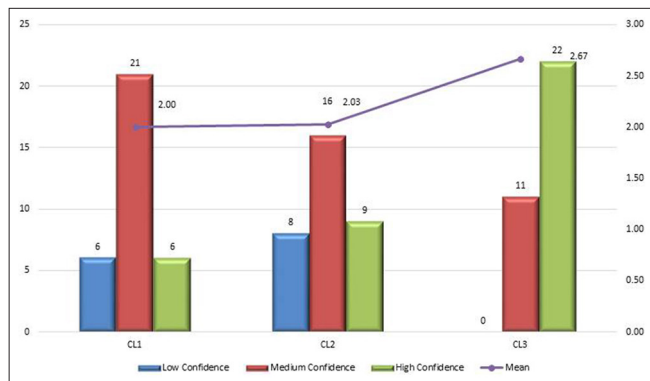


Figure 3: Confidence level of participants on prescription talk.

Plenty of devices are prescribed to the patient without or with no clear instructions, again leading to therapeutic failure. In this study, we checked the skills for MDI, which is commonly used by bronchial asthma patients. The scores were reasonably better when compared to the other two conditions. It was 7.0 ± 1.6 at pre-test and improved to 8.3 ± 1.0 following intervention, which is statistically significant. The skills were poor in studies conducted on medical students, which are exhibited in patients also.^[14,16,17]

Normally, the confidence of the interns should be high, as they have cleared their qualifying examinations. However, in this study, we assessed at three levels and observed that only 18% were highly confident at baseline but increased to 66% after intervention, which was statistically significant. The study conducted in Sweden also had confidence levels of around 45% in medication reviews, which increased on repeated reviews.^[18]

By observing these facts with a few participants, the preparedness of IMG for one of the important skills of prescription talk appears not satisfactory. The confidence levels were also not high. Regular training is necessary to attain the proficiency in skills of prescribing which can enhance the confidence. This suggests the need for incorporating it as a part of internship training before they are ready to practice.

Limitations

The study will be more valuable if it is a prospective study where the results can be compared between the 2nd MBBS and interns to determine the retention. The sample size was small, and a pre-test assessment was done for long-term retention, whereas the post-test was done for short-term retention.

CONCLUSION

The low scores in the pre-test indicate that preparedness is not adequate, showing poor retention or decay of skills

from the 2nd MBBS towards internship in both prescribing and communication of prescription. The wider gap between the time of training and its application could be one of the causes. This can be improved with regular reinforcement and assessment during the clinical years of the 3rd MBBS and regular training during internship.

Acknowledgment: Faculty of department of pharmacology and interns.

Ethical approval: The research/study was approved by the Institutional Review Board at the Institutional Ethics Committee of Sri Siddhartha Medical College, number SSMC/MED/IEC-204/September-2024, dated 6th September 2024.

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

Financial support and sponsorship: Nil.

Conflict of interest: There are no conflict of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation: The authors confirms 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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How to cite this article: Narasimhaiah MG, Bhat I, Fathima FN. 'Prescription talk' - Preparedness of Indian medical graduate to prescribe and communicate. *Indian J Physiol Pharmacol*. doi: 10.25259/IJPP_79_2025