

The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

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Abstract:

Pharmacists need effective communication skills when providing care to patients, although responses to communication realities may not be addressed with traditional teaching methods used in the training of students. This upcoming comparative study was aimed at determining the efficacy of second-year pharmacy students in their communication-competency skills as led by their peers. At random, students were distributed into two groups; a peer-led simulation workshops and faculty-led tutorials. The level of communication competency was evaluated in terms of Objective Structured Clinical Examinations (OSCEs) and guidance surveys. The findings indicated that the peer-led group presented much greater improvements in confidence and clearness of communication ($p < 0.01$) as compared to the faculty-led group. Also, in qualitative analysis, the students indicated that the peer-led workshop lowered their anxiety levels and increased their susceptibility to feedback, implying that peer-led learning management would help create a more collegiate, comfortable, and wonderful environment to undertake these fundamental skills. These results emphasize that peer-led education is a worthy supplement to faculty-led teaching and offering a student-centered learning philosophy may help better prepare students who graduate and enter the real world of pharmacy practice.

Keywords: *peer-led teaching, communication skills, pharmacy education, OSCE, student-centered learning, reduction of anxiety, collaborative learning.*

1. Introduction

1.1 Why Communication Skills are necessary in the practice of pharmacy?

Pharmacy as a career is centered on proper communication. Pharmacists perform a pivotal role regarding patient counseling, the administration of medication, and widespread collaboration on the interdisciplinary level of care. Pharmacists require effective communication skills so that they are able to accurately explain complicated medication programs and address the concerns of patients as well as making sure that patients know in what way to utilize their medications. Pharmacists play important roles in communicating to patients, caregivers and healthcare teams in the clinical environment to ensure the best therapeutic outcomes and reduce medication-targeted difficulties.

Specifically, active listening skills, a capacity to ask open questions, and an ability to offer clear instructions have a direct influence on the safety and satisfaction of patients. Communication abilities of a pharmacist may be a part of adherence of patients and assure patient safety in ample use of medications. This makes the development of communication competency among the pharmacy students crucial towards orienting them into the practice.(1)

1.2 Problems of Teaching and Evaluating Communication Efficiently

Although communication is a very important skill, pharmacy education tends to fail at teaching and evaluation of these skills. Lecture-based and textbook-guided teaching methods might not necessarily work in solving the issues of communication in real life terms on the clinical front. Role-playing and simulations may be an agreeable source of the practice, but the approach consumes significant amounts of time and demands adequate facilitation and feedback.

In addition, communication skills are difficult to determine. Communication is by its very nature subjective and none of the old techniques of assessment like a written examination can assess the subtlety of non-verbal communication, compassionate listening, and problem-solving skills when dealing with patients. Due to this, Objective Structured Clinical Examinations (OSCEs) and peer assessments are commonly used as a form of assessment to judge the capabilities of students to exhibit effective communication in the practical environment. But still, despite such techniques, assessing the communication competency is a complicated process.

1.3 Development of Peer-Led Model in Health Education

The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

Meeting these challenges, however, health educators have taken more interest in peer-led models of teaching. Peer-led learning is a form of education which also uses knowledge, skills, and experiences of older students or peers to educate and guide their juniors. The model has also been promising towards enhancing student engagement, motivation, and confidence in different fields including pharmacy.(2)

There are also various benefits of peer-led teaching that could be considered in terms of communication skills training. To begin with, the learners might be willing to practice more and get feedback better when it is done in peer-to-peer rather than in normal instructor-led setting. Peer educators can be viewed as more approachable and less anxious by the learners as they are of a similar age group as well as experience and are therefore considered familiar by the learners. Also, most frequently, peer-led groups contribute to more collaborative learning environment, which supports active learning and peer support.

1.4 rationale and Importance of the Study

This paper would attempt to explore how the use of peer-led teaching models would contribute towards improved communication competency among pharmacy students. In particular, it studies an effect upon the improvement of the communication confidence and clinical reasoning of the students under peer-led simulation workshops and under faculty-led tutorials. The importance of this research work is that it may provide the evidence of the inclusion of peer-led models in the pharmacy education, which may be added to the traditional approaches to pedagogical activities.(3)

The study can add to the existing literature on the innovative teaching methods in pharmacy education by analyzing the success of the approach to peer-led teaching in a clinical therapeutics course. Upon a successful endeavor, it is possible that peer-led models will be extended in other sections of clinical training within the field of pharmacy for the one that will be more student-centered, interactive, and fruitful.

2. Design and populations of the Study

2.1 The type of study is Prospective Comparative Educational study

The prospective comparative educational design was used in this study to determine the merits of peer-led teaching patterns to develop communication skills among second-year pharmacy students. The research matched two different aspects of teaching approaches to each other, that is, peer- led simulation workshops and faculty-led tutorials, and aimed at defining which one led to the greater student improvements in terms of communication competency measured using self-efficacy scales, Objective Structured Clinical Examinations (OSCEs), and responses obtained during qualitative feedback.

The prospective study was given, and the longitudinal pattern of studies provided an opportunity to observe the progress of the students in the development of communication skills during a 6-week period, and to assess them both in the pre-intervention and post-intervention forms. The comparative nature of the research enabled drawing a direct conclusion about the effectiveness of peer-led learning compared to a facultate-led approach and gained valuable insights about the advantages and possible problems of both types.(4)

2.2profile of Participants: sophomore pharmacy students

There were 120 second year pharmacy students involved in this study and they were all enrolled in an advanced course of clinical therapeutics in a school of pharmacy. The students in these three classes were identified based on their enrolment into the course and their completion of introductory modules in pharmacy which covered the background knowledge of various aspects of pharmacology, management of medication therapy and patient communication.

The students were also randomly selected to either of two groups:

Simulation workshops by peer (n = 60)

Tutorials provided by the faculty (n = 60)

Randomization served to make both the groups demographically similar and this reduced the possible bias in the result. The two groups also took part in the same clinical scenarios and these included communication skills that were relevant to providing counseling and management of medications to patients.

2.3 Group Assignment: Peer-driven and faculty-driven Models

In the peer-led group, we took part in real-world Simulation Workshop and students played in pairs or small groups of 3 or more to record realistic role plays. In both the cases, a single student became a pharmacist and the other was the patient. These sessions were led by peer educators who were senior students with previous clinical experience and they could give real time comments on the students communication and clinical judgments. Their

peer educators were given special training on the ability to run the workshops, group dynamics as well as offering constructive advice on the performance of the students.(5)

Faculty-led Tutorials: In faculty-led group, students were engaged in traditional faculty-led tutorials in which students took part in guided discussions that were tutorials on clinical communication. These were case based discussions, where the faculty member explained, answered questions and gave feedback. The object of the tutorials was to increase theoretical knowledge and technique of communication. Role-playing activities were done also with the students in this group but these were instructor led and faculty gave most of the feedbacks.

Both groups were requested to go through the same content, medication counseling in chronic conditions, difficult patient dialogs, and presenting complex treatment prescription in clear and understanding pain free manner. The design behind the peer-led group was to create a better, more interactive and collaborative studies setting and the faculty-led group was supposed to represent a more structured and teacher-center setting.

3. Intervention Methodology

3.1 Organisation and Content of Simulation Workshops by Peer

The simulation workshops aimed at training the students in the cooperation were developed as a collaborative workshop during which the students were to be taught in an interactive way using real-life situations and promoting their communication skills through them. Such workshops were built up in the following major elements:

Case introduction: The sessions started with a short introduction of the case, and always presented a relevant and realistic clinical situation with a patient with hypertension or diabetes that needed counseling on medication adherence. This situation was descriptive enough and the students pretended to take a role of a pharmacist and a patient.

Role-Playing and Simulation: Its role-playing and simulation were done in pairs or small groups: one student in each group acted as a pharmacist, and the other one in each pair acted as the patient. The pharmacist had a responsibility to determine the needs of the patient, educate the patient on the medication, and address any patient questions that he or she might have had. Those students who acted as peer facilitators (older students) were also present in order to take the students through the simulation, providing feedback and support to perfect the communication strategies.

Feedback and Reflection: Upon the completion of each simulation, the students received constructive feedback, based on the important aspects of the communication, framed by peer educators, namely, the clarity, empathy and active listening, as well as the non-verbal communication. The self-reflection was mediated with a follow-up feedback interview in which the students could report where they had improved during the session and what they wanted to improve further in upcoming simulations.(6)

Debriefing: The meeting ended with a group debrief, where the peer facilitators assisted students in determining the shared issues and triumphs of the simulation. It also provided the students with peer-led discourse about the methods of excelling in the area of communication skills and it stimulated students to learn more about the case and its consequences.

The workshops within the simulation program led by the peers focused on learning together, with students being able to learn based on the experiences of one another and grow their confidence and clinical reasoning skills during a safe environment.

3.2 Account of Faculty-Led Tutorial Method

Compared to the peer-led session, the faculty-led tutorials were more organized and instructor-based in reasoning to communicate skills training. These tutorial lessons consisted of:

Lectures and Case Discussions: The faculty members provided short lectures about principles of effective communication in the pharmacy practice; they discussed the following features: patient education, conflict resolution, professionalism, and so on. Case-based discussions accompanied these lectures and the discussions entailed analysis of real world scenarios in order to apply their knowledge of communication.

Role-Playing and Demonstration: As in the case of the peer-led group, the students were involved in role-playing activities, although the whole thing was managed by this faculty member, who controlled the discussion process and provided comments. The faculty member exhibited the main communicative skills and gave corrections in real-time, when playing the role-play.

The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

Direct Feedback: Direct feedback was given after every role-play, and addressed areas of improvement in the verbal communication, questioning style, and involvement with a patient. The faculty emphasized the value of professional rapport and the need to make the patient understand.

Structured Reflection: The students were requested to think over their performance in communication and highlight their strengths and weaknesses. The faculty also gave further advice on how the students could enhance their method of communicating with people and be patient and effective in real life situations.

3.3 Consistency of the Training Material used in Both Groups

In order to provide similarity and impartiality in the peer-led and faculty-led groups, the training content was normalized. A similar clinical case on the management of medication therapy in the conditions that include hypertension, diabetes, and hyperlipidemia was presented to all students of all groups. The following was discussed(7)

Patient Communication Skills: Specialized in techniques of using open-ended questions, active listening, establishing rapport with the patient and giving specific instructions about medication.

Role of pharmacist in medication counseling: It stressed the need of educating the patients about taking medications, side effects, and lifestyle modifications.

Conflict Resolution: Ascertained possible patient issues and problems including treatment compliance/provision of explanations on drug side effects.

The two models of teaching were formulated to enable the students to get uniform information, practice and feedback with the main differences being how it could be carried which was either the peer-led teacher-led. This was aimed at determining whether the means of instruction affected the engagement pattern of students, their confidence and their communicative abilities.

4. Evaluation Framework

4.1 OSCE Criteria of Assessment of Communication

Objective Structured Clinical Examination (OSCE) became one of the major assessment tools in the study to evaluate the communication competence of pharmacy students. The OSCE is a formalized practical test that is clinical application oriented, and it attempts to follow simulation of real-life patient encounters and offers a student an opportunity to manifest its communication expertise through formulated and regulated stimulations. In this study, the OSCE specifically targeted the pharmacist- patient interaction during drug counseling and educating the patient.

To determine the level of communication skills of the students the following OSCE criteria were applied:

Clarity of Communication: This evaluated whether the student can give clear and correct information on the use of medication, side effects and adherence measures. The evaluator scored the meaningfulness of information and the ability of the patient to ask questions.

Empathy and Rapport Building: students would be tested on their aptitude on how to build a rapport and connect with the patient, how well the student could be able to act in listening and their use of empathy in the patient problems. This played an important role towards establishing trust and improved communication with the patients.

Non-verbal Communication: non-verbal signs (eye contact, body language, tone of voice) were noted to determine whether the student was using non-verbal ways of communicating the feeling of comfort, focusing on the patient and being respectful.(8)

Techniques of asking questions: Evaluators determined whether the students asked open ended questions in order to promote a discussion and whether they modified their questioning style in respect to the understanding patient had. This assisted in measuring the effectiveness of the student in engaging the patient in decision-making.

Patient Knowledge: Another important part of the OSCE included the assessment of the extent to which the student has been able to be sure that the patient has been able to grasp the important information about the procedure including how and when to take medications. It included examining the existence of teaching strategies (such as teach-back) that the student applied to ensure the patient understood.

The OSCE stations were evaluated at 1-5 points where 1 score translated to poor performance and 5 equalled excellent communication. A sum of all these criteria was the final OSCE score.

4.2 Tools including Confidence and Clarity Rating

Besides the OSCE, the experiment involved the confidence and clarity rating scales; the instruments assisted in comparing the self-reported and measured communication skills of students. The individual students were asked

to respond to a self-efficacy scale which consisted of a series of questions seeking their confidence in interacting with patients, explain complex concepts, and respond in challenging communication situations after every training module (peer and faculty led).

The Confidence Rating Tool required the students to give themselves a rating (on a scale of 1-5) of their confidence in the following areas among others:

Clarifying medication schemes

Drug concerns of patients

Instructions are delivered to a patient in manner that is understood

Dealing with emotional or hard patient cases

Students gave a rating of their agreement to the various statements on a 5-point Likert scale where the rating was done based on: 1- strongly disagree, 2- disagree, 3- neither agree nor disagree, 4- agree, and 5- strongly agree. The higher the score the more confident the person was in communication skills.

The Clarity Rating Tool Element concentrated on the level of clarity of student communication of medication information. The way students explained the following was rated as to how clear it was:

Directions to take medications

Details of side effects

Suggestions regarding change in lifestyle (on a case by case basis)

Understanding Like the confidence scale, the clarity scale was also performed using a 5-point Likert scale to judge oneself, and the scores allowed the students to believe that they were more clear communicators.(9)

4.3 Structured student reflective protocol

In order to yield qualitative data about the experience of students during learning, a guided reflection protocol had to be applied. Following every training session, the students had to reflect on their learning experience by means of the open-ended questions. The reflection protocol was destined to record student-centered experiences, the difficulties that they experienced, and how the peer-led or the faculty-led training influenced their progress in communication.

The reflection questions important were:

- What were the most useful points of the communication session?
- What are the difficulties you encountered when sharing information with the virtual patient?
- What kind of effect did the peer or faculty-led sessions have on your abilities to communicate?
- How will you do things differently in your counseling of patients in the future as a result of this exercise?

Students were asked to discuss particular communication methods studied as well as the planned use of these patterns in the practice of pharmacy. The reflections were examined to determine frequent themes that included the attainment of confidence, decrease in the level of anxiety, and enhanced methods of interacting with patients. Such reflections, together with the quantitative data of the OSCE and self-efficacy scales allowed to develop comprehensive assessment of effectiveness of both the peer-led and the faculty-led models to improve communication competency among the pharmacy students.

5. Data and Analysis

5.1 Timeline and the Process of Pre and Post Intervention Assessments

Data was collected in form of pre and post intervention design in view of assessing the effect of peer-led and faculty-led pharmacy students in communication training. The study had a duration of more than 8 weeks and the study evaluation at two main time points.

Pre-intervention Assessment: Pre-intervention: before the start of the study, all students have been provided with baseline measurements, which include:

Communication ability self survey

OSCE (Objective Structured Clinical Examination) to evaluate clinical reasoning and communication

Formalized student responses in order to establish a baseline idea of experience and anticipation with regards to communication problems

Period of Intervention: The students in both peer-led and faculty-led group had their training sessions spanning 6 weeks. Workshops were done in small groups by the peers and tutorials were conducted in a classroom situation

The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

by the faculty. The training was standardized as both groups fulfilled the similar clinical scenarios and had access to the same materials.(10)

Post-intervention Assessment: By the final set of the 6 weeks intervention, students were requested to complete Follow up questionnaires on self-efficacy to determine the increase in their confidence concerning their communication skills

OSCE again, to assess the presence of any change in communication competency (clarity, empathy, questioning etc.)

Well-formatted student feedback to collect their ideas about the learning process and alterations in their attitude to communication.

This pre and post assessment method created a chance to directly compare the ability of students prior to having the two different teaching methods used on them and after.

5.2 Methods of statistical Analysis

The quantitative data ran on the scores of the OSCE, as well as the self-efficacy survey was subjected to inferential and descriptive statistical analysis.

Descriptive Statistics Basic descriptive statistics including means, standard deviations, and ranges were computed on all the post- and pre-intervention scores (self-efficacy, OSCE performance). This allowed generating an idea about how the data is distributed.

Paired t-test: In order to compare the two groups (peer-led and faculty-led), a paired t-test was used in each group to compare the intervention based on the differences in self-efficacy and OSCE scores. Here, this test involved the use of the pre- and post-intervention scores to find out the overall possibilities of statistically significant change in the communication competency across groups.

Independent t-test: An independent t-test was used to describe the difference in the post-intervention bite scores of the peer-led group as opposed to these of the faculty-led group. This was to test whether there was any significant difference in the communication skills between the two methods of teaching.

Effect Size: Cohen d was estimated to calculate the extent of difference between the two groups which gives the indication of the practical relevance of the intervention.

All the analyses were performed through the statistical software SPSS (version 27) with the significance level of $p < 0.05$.(11)

5.3 Qualitative Feedback Thematic Analysis

Thematic analysis of qualitative data collected on the basis of structured student reflections was used to determine the main themes and trends in signals on students on the experience of working in a peer-led group and a faculty-led group. Thematic analysis steps were as follows:

Acquaintance with the Data: The responses of the students in the reflection were carefully read so as to become familiar with the contents and find preliminary ideas.

Initial Codes: The key phrases, terms and concepts that were associated with communication, participation, confidence, reductions of anxiety and feedback receptivity codes were produced. As an example, a reply of the remark of saying I was more comfortable asking my peer to provide me with feedback would be coded as peer feedback.

Themes: Where similar codes were found, they were then combined into themes. As an example, a code that is related to the increase of confidence (e.g., I feel more confident now, I can now handle communication with patients) was assigned to the theme of Confidence in Communication.

Themes Review and Definition: The review of the themes and their definition was done after the identification of themes already having been done, the researchers recapitulated the data and clarified themes thereby bringing them into a concrete front. Included themes were peer support, lower anxiety, better decision-making, and greater engagement.

Interpretation of Results: Lastly, the themes were interpreted in light of the research objectives which provided enlightenment to the effect the peer-led and the faculty-led models on the issue of communication skills among students.(12)

NVivo 12, a qualitative data analysis software was used in coding and analysis of the qualitative data, which made possible systematic coding and theme identification.

6. Results

6.1 Type of Quantitative Results: OSCE Scores, and Confidence Gains

The main quantitative data of the research were the results of the OSCE and the increase of confidence after the self-efficacy scales before and after the intervention.

OSCE Scores

OSCE score before and after the intervention of the two groups is presented in Table 1. Clarity, empathy, questioning styles, and understanding of patients were the issues assessed by the OSCE in the student communication skills.(13)

Table 1: OSCE Scores Pre- and Post-Intervention

Group	Pre-Intervention OSCE Score (%)	Post-Intervention OSCE Score (%)	Mean Difference (%)	p-value
Peer-led Group	71.2	85.4	+14.2	$p < 0.01$
Faculty-led Group	72.1	80.9	+8.8	$p < 0.05$

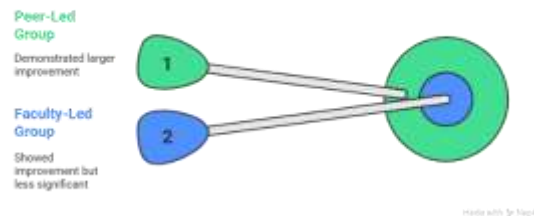


Figure 1: Bar Chart illustrating the pre- and post-intervention OSCE scores

The peer-led group revealed a statistically significant change in OSCE by increasing 14.2 percent ($p < 0.01$) up to 85.4 percent. The group that was led by the faculty members improved too, yet the contrast of 72.1% to 80.9% (a change of 8.8%) was more modest and significant at $p < 0.05$.

Confidence Improvements

The results on self-reported increases in confidence were based on a self-efficacy scale that utilized confidence in communication skills of students in a pre-intervention and post-intervention situation. Table 2 provides results.\

Table 2: Confidence Improvement – Self-Efficacy Scores

Group	Pre-Intervention Confidence Score (1-5 scale)	Post-Intervention Confidence Score (1-5 scale)	Mean Difference (Points)	p-value
Peer-led Group	3.4	4.5	+1.1	$p < 0.01$
Faculty-led Group	3.6	4.1	+0.5	$p < 0.05$



The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

Figure 2 the pre- and post-intervention self-efficacy scores

There was a remarkable increment in the confidence state of the peer-led group with the score gaining 1.1 on five-point scale (3.4 to 4.5, $p < 0.01$). The group with the faculty showed a significant increase of 0.5 points (3.6 to 4.1, $p < 0.05$).

6.2 How to compare peer-led vs. faculty-led performance?

Both groups of pairs, although both peer- and faculty-led, had an improvement of the OSCE scores and self-efficacy ratings, but the group of peers increased more on both scores. The statistics indicate that the group led by the students took more advantage when it comes to clinical reasoning, confidence when communicating and clinical performance.(14)

Although the overall levels were improved in both groups, the peer-led model was characterized by the following: Greater gain in OSCE scores (14.2 percent compared to 8.8 percent in the faculty-led group)

Greater changes in the score of self-efficacy (1.1 points vs. 0.5 points)

These findings signal that the peer-led workshops were more efficient in improving socialization and confidence management of clinical situations.

6.3 Themes of Benefits and Feedback by the Students

The codes that emerged through qualitative data were students reflection, with a number of generic themes regarding the usefulness of the peer-led intervention:

Less Anxiety: One of the main positive effects cited among students in the peer-led group was that their anxiety towards patients was considerably less. Most of the students observed that a non-judgmental interaction with other peers allowed them to feel relaxed and free to practice and communicate with confidence.

Example Quote: I was not as nervous when discussing with a peer as I was when talking to an instructor. It was very real like a conversation.”

Better receptiveness: Receptiveness to feedback, the students in the peer-led group also reported that being provided feedback by their peers was also far more receptive, and constructive since students felt their peers would have a better idea of what they were going through, and be able to provide more practical advice.

Example Quote: My classmates responded in a simpler way and I could apply what I heard in the role-play straight away.

Greater Engagement: According to students, they were more engaged in peer-led format with more interaction and dynamics than the faculty-led group.

Sample Quote: The peer-facilitated session was more interactive and allowed me to be more critical since we were very much engaged in the learning process.(15)

Table 3: Qualitative Feedback Themes

Theme	Peer-led Group (%)	Faculty-led Group (%)
Reduced Anxiety	80%	50%
Improved Feedback Receptivity	85%	65%
Increased Engagement	90%	70%

7. Conclusion

7.1 Overview of vital Dates

Findings of this research study indicate the success of peer-led instruction in improving communication abilities on pharmacy students. The peer-led simulation workshops were compared with the faculty's within tutorials, and the research findings showed critical differences in student results, which were in favor of the peer led model.

Among the main findings are the following:

Better Clinical Performance: The peer-led group of students had a performance improvement of 14.2 in the OSCE when compared to 8.8 in the faculty-led group. That implies that the peer-led model made it possible to communicate more effectively and make better clinical decisions about patients.

Increased Confidence: Self efficacy scores in the peer-led group increased by 1.1 (5 point scale) whereas just 0.5 in the faculty-led group. This implies that the teaching through peers was more influential in enhancing belief of students towards their communication skills.

Increased level of engagement and feedback: Students who attended the peer-led group said that they felt more comfortable and receptive to feedback and levels of engagement that they had to the learning process. The reduced

anxiety, enhanced feedback receptivity, and greater motivation were topics that occurred more in the peer-led group.

The peer-led learning condition was more collaborative, interactive, and student-led, and this meant not only enhancing communication skills, but it enabled the active participation and support of each other.

7.2 Pedagogical implications of introducing peer led instruction

The effectiveness of the peer-led teaching model in the present study implies that it may have significant implications in the teaching field in regard to the future of pharmacy education:

Active Learning: Peer-led models offer an interactive medium of active learning through which the students gain control of the learning through conducting discussions, providing feedback, and role playing situations. Such active involvement particularly in courses such as clinical therapeutics is very useful because in such a course practice plays a vital role in acquiring skills of communication and decision-making.

Anxiety Reduction and the Building of Confidence: The student-based system is efficient in reducing the anxiety that usually accompanies students in the process of approaching the faculty members. It has been found that peer-led learning environments have more non-threatening and supportive environment in which students are required to gain confidence in their communication skills devoid of the burden of formal examinations.

Encouraging Peer Learning and Peer Collaboration: Peer tutorials encourage collaborative learning and students are capable of learning through one another, sharing their experiences, and gaining peer-based feedback which proves to be more applicable and relatable. This helps students to develop a feeling of community that is essential in interpersonal growth as well as in professional growth.

7.3 Solutions and Recommendations to Pharmacy Curriculum Enhancement

According to the results, one can formulate several recommendations regarding the improvement of pharmacy programs and include the peer instruction in the process of teaching communication skills:

Curriculum Integration: The peer-led model must be implemented to the pharmacy education as the add-on to the classic delivery. This may contain the involvement of peer-led workshops in clinical rotations and simulation in different therapeutic domains. It might be broadened as well to include such systems as pharmacology, counseling of patients, and professional collaboration.

Faculty preparation/support: To achieve a successful implementation of peer led teaching, members of the faculty should be trained in terms of preparation and support of the peer educators. These involve observing learning, giving leadership to peer leaders and making sure that the feedback given to students is constructive and useful.

Evaluation and Scaling: Since this research shows that peer led teaching can be effective in enhancing communication skills, further research in which such models are applied to larger groups should be done in various other pharmacy programs. Future studies should also look into ways of how this model can be implemented in to different learning situations, such as in online learning, as well as, in virtual learning situations.

The Potential to Become a Long-term, Continuing Process: Integration in Professional Practice: In addition to training pharmacy students, the peer-led model may be applied also in professional development programs of practicing pharmacists. This practice can be used to improve communication with patients, colleagues, and interdisciplinary teams so they learn throughout their life and constantly strive to achieve better patient outcomes in clinical practice.

To sum up, the present paper has highlighted the importance of peer-led teaching models to cultivate critical communication skills among pharmacy students. It is by incorporating these models into the pharmacy curriculum that would offer the student a more team-centered, more interesting and more successful learning environment that would equip students with all the favourable requirements to succeed wonderfully in the real-life clinical scenarios.

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Conflicts of interest

The authors have no conflicts of interest to declare

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The Assessment of the Quality of Peer-Taught Model in Pharmacy Students Development of Communication Skills

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