

Effectiveness of Role Play in Teaching Neurological History Taking to First year Physiotherapy Students

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Abstract

Background- Accurate diagnosis, efficient patient care, and the development of solid doctor-patient relationships all depend on the ability to take a patient's history. It is typically taught through lectures, which might hinder student participation and prevent the development of critical communication abilities. By encouraging active, student-centered learning through simulated scenarios, this study sought to assess the efficacy of role-play as a teaching technique for obtaining histories among first-year Bachelor of Physiotherapy (BPT) students, particularly in neurological cases.

Methodology - This study was conducted at our college, involving-first year and second year students. The experimental group (first-year students) engaged in structured role-play, while the control group (second-year students) received traditional lecture-based instruction. Vertical and horizontal teaching approaches were integrated into the role-play design, progressively building foundational concepts while allowing interdisciplinary knowledge application.

Results - Results showed that the role-play group achieved an average score of 16.07/20, compared to 13.87/20 on MCQ test in the control group. First-year students reported enhanced confidence, improved communication skills, and a better understanding of history-taking processes.

Feedback from the experimental group highlighted the checklist-guided structure of role-play, which students found valuable for developing professionalism, empathy, and analytical skills essential in neurological cases. In contrast, the control group demonstrated a solid grasp of theoretical knowledge but displayed less confidence and lower practical application skills.

Conclusion -These findings support the integration of role-play into physiotherapy education as a transformative approach that enhances learning and prepares students for real-world clinical practice.

Keywords: Role-play, history taking, clinical education, physiotherapy, communication skills, neurological conditions, vertical learning, horizontal learning.

Introduction

History taking is a foundational skill in clinical practice, critical for accurate diagnosis and effective patient management. It not only aids in identifying the correct diagnosis but also establishes a strong doctor-

patient relationship¹. Traditionally taught through didactic lectures, history taking can often feel passive and less engaging for students. To address this, role-play has emerged as an interactive teaching method, immersing students in real-life clinical scenarios where they can practice and refine their communication and history-taking skills in a controlled environment². Widely adopted in medical education, role-play fosters practical skill development and a deeper understanding of patient communication, with numerous studies supporting its effectiveness for enhancing history-taking skills, especially when combined with other teaching methods

Teaching methodologies in medical education include vertical and horizontal approaches, both of which complement role-play effectively. Vertical learning progressively builds students' knowledge, beginning with foundational concepts like neuroanatomy and basic history-taking principles. As students advance, more complex neurological case scenarios are introduced, fostering critical thinking and ensuring long-term skill development from simple to challenging clinical tasks. In contrast, horizontal learning integrates a broad range of topics simultaneously, such as neurophysiology, patient communication, and ethical considerations^{3,4}. This approach promotes interdisciplinary understanding and peer collaboration, as students apply knowledge across fields, enriching group activities like role-play with diverse perspectives. This study integrates both vertical and horizontal teaching approaches through role-play to enhance first-year physiotherapy students' history-taking skills, particularly in neurological conditions. The structured, interactive nature of role-play provides an engaging and practical learning experience that prepares students for real-world clinical practice, building both confidence and competence in essential clinical skills

Need for the Study

The traditional, teacher-centric approach to teaching history taking often limits student engagement and restricts the development of essential communication skills. As healthcare increasingly emphasizes patient-centered care and effective communication, innovative teaching methods are needed to better equip students with these skills. Although the role-play technique is widely used in medical colleges, few studies address its specific value for physiotherapy students.

This study aims to assess the effectiveness of role play as a teaching tool for history taking among first-year BPT students, particularly in neurological conditions. The study investigates whether role play enhances students' understanding and application of history-taking skills, providing a safe environment for practice without the fear of making mistakes, which is essential for building confidence in patient interactions. Role play allows students early exposure to clinical scenarios, bridging theoretical knowledge with real-world simulations. Additionally, it fosters professionalism, developing key skills such as empathy, confidentiality, and active listening. Role play also improves analytical skills, guiding students to ask follow-up questions and recognize subtle symptoms, which are especially crucial in neurological cases. Ultimately, role play prepares students for real-world clinical practice by building both confidence and competence.

Methodology

Teaching Methodology: Interactive Learning Through Role-Play

Methodology ensures that students move from passive observation to active practice, reinforcing their learning. By the end of the session, students should have a better understanding of the process of history taking, the importance of communication, the nuances of patient interaction.

Role-play is a dynamic teaching methodology that allows students to engage in experiential learning by simulating real-life scenarios. It is particularly effective in healthcare education, where students need to develop both technical and interpersonal skills.

Sample Size: 70 students- First year BPT and 70 -Second year BPT

Activity Overview:

Prior to the role-play activity, students were informed two days in advance about the session. The activity began with a discussion on the neurological cases the students had observed in both outpatient (OPD) and inpatient (IPD) departments. This was followed by a brief lecture on the anatomy of the brain, detailing the functions of each lobe, supported by an audio-visual presentation of and the importance of history taking in neurological cases.

Role Play Execution: -

Experimental Group (First-Year Students): Three groups performed role plays, while two acted as observers, using checklists to evaluate performances. Student volunteers assumed the roles of doctor and patient, simulating interactions. Each role play lasted 5-7 minutes, followed by feedback sessions highlighting strengths and areas for improvement.

Control Group (Second-Year Students): Second-year students received traditional instruction on history-taking skills without engaging in role-play. Afterward, they completed the same history-taking quiz as the first-year students to assess their understanding and skills.

TABLE-1- (CHECKLIST)

Sr no	Checklist	Yes	No
1	Patient Introduction and Comfort		
2	Presenting Complaint		
3	History of Present Illness		
4	Past Medical History		
5	Medications		
6	Personal History		
7	Socioeconomic status		
8	Family History		
9	Functional Assessment		
10	Closing the session		

Feedback and Debriefing:

Feedback Session: Following each role-play session, observers and faculty provided immediate feedback to the student physiotherapists. This feedback focused on both strengths and areas for improvement, emphasizing the importance of clear communication and thorough history taking.

Feedback Collection: Students completed a post-activity feedback form, structured around the headings of description of the role play, the significance of the experience, and application of the learned skills in future practice. Feedback also assessed the perceived effectiveness of the role-play activity and identifying areas for improvement. The questions focused on various aspects of the role-play activity, including its impact on confidence in patient communication, skills in history taking, and motivation to study. They

also explored the effectiveness of the role-play method, interest in future similar activities, understanding of neurological conditions, and the application of theoretical knowledge in a practical setting. Additionally, the questions addressed teamwork, the value of feedback received, and challenges encountered during the role play, along with suggestions for improvement.

Experimental Group (First-Year Students):

The average score was **16.07/20**, with a range from **12-19 points**. While students performed well overall, they struggled with questions requiring deeper insights, such as understanding **personal history** in patient interactions.

Control Group (Second-Year Students):

Performance: The average score was 13.87/20, with a range from 9-18 points. Similar areas of difficulty were noted in questions related to symptom progression

This indicates that while the role-play activity improved general history-taking skills, more emphasis may be needed on areas requiring deeper clinical reasoning and detailed patient history evaluation.

Results

The average quiz score for the first-year students who participated in the role-play activity was 16.07/20, with a score range from 12-19 points. These students performed well overall but encountered challenges with questions requiring deeper clinical reasoning, particularly in understanding personal history in patient interactions. This indicates that while the role-play activity improved general history-taking skills, more focus may be needed on areas involving detailed patient history and clinical insight.

In comparison, the second-year control group, who did not participate in the role-play, had an average score of 13.87/20 with a range of 9-18 points. Similar challenges were observed in this group, specifically with questions related to symptom progression. Although the control group demonstrated a solid understanding of theoretical concepts, they lacked the confidence and practical skills observed in the first-year students who engaged in role-play. This suggests that traditional teaching methods may not provide the same level of engagement or skill development as interactive learning approaches.

Student Feedback:

- **Confidence and Communication:** Many first-year students reported that the role-play activity significantly boosted their confidence in communicating with real patients and improved their skills in taking patient histories, making them feel better prepared for clinical scenarios.
- **Motivation and Skill Development:** The role-play encouraged students to engage more thoroughly with history-taking and reinforced the importance of comprehensive patient communication. They noted that it enhanced their ability to document accurate and detailed medical records, a skill essential for future practice.
- **Learning Method and Knowledge Application:** Most students found role-play to be an effective and engaging method for learning history-taking. They expressed a strong interest in participating in similar activities, noting that role-play helped them understand neurological conditions better and approach patients more effectively. The practical application of theoretical knowledge in simulated clinical settings was widely appreciated, and many students noted improvements in teamwork abilities, an essential skill in healthcare.

Control Group Comparison: The control group, though knowledgeable in theory, displayed lower confidence and fewer practical application skills. Their quiz scores were slightly lower, indicating that the traditional, lecture-based method did not encourage the same level of active learning or skill development.

Feedback and Guidance: Structured guidance was highly valued by both groups, with first-year students particularly appreciating the immediate feedback in role-play sessions. This feedback helped them identify their strengths and areas for improvement in real-time.

Challenges and Suggestions: Some students felt shy or nervous during role-play, suggesting a need for more practice to overcome stage fright. Others recommended allocating additional time for preparation and noted difficulties in remembering all checklist points, indicating that ongoing practice is needed to reinforce history-taking skills.

Overall, the results show that role-play was effective in enhancing clinical skills and building confidence among first-year students, while also identifying specific areas for future improvement.

This feedback highlights the overall success of the role-play activity in enhancing students' clinical skills and confidence, while also providing areas for improvement in future sessions.

Discussion:

This study demonstrates that role play is an effective and transformative teaching method for improving history-taking skills in first-year BPT students, particularly in neurological conditions. By simulating real-life clinical scenarios, role play allows students to practice and refine their communication skills, which are crucial for patient care. The use of checklists in role-play sessions ensures that students cover all essential aspects of history-taking, providing them with a structured and systematic approach to patient interviews.

Key Findings on Role-Play Effectiveness

The results indicate that role-play significantly enhances first-year students' clinical competence and confidence in history-taking. The first-year students who participated in role-play achieved an average quiz score of 16.07/20, with a range of 12-19 points, and demonstrated notable improvements in communication skills and confidence. However, areas requiring deeper clinical reasoning, such as understanding personal history in patient interactions, remained challenging. In comparison, the second-year control group, which did not participate in role-play, had an average score of 13.87/20, with a range of 9-18 points. These students demonstrated a good understanding of theoretical concepts but lacked the confidence and practical skills that role-play participants displayed, particularly in applying clinical reasoning to questions involving symptom progression.

Student Feedback and Skill Development

Feedback from the first-year students highlighted several benefits of role-play, including enhanced confidence, better communication skills, and improved ability to take patient histories. Students reported feeling more prepared for real-world patient interactions and expressed greater motivation to study history-taking thoroughly, recognizing the importance of clear and empathetic communication⁵. Additionally, role-play encouraged students to actively apply theoretical knowledge in practical settings, reinforcing their understanding and improving teamwork skills. Most students agreed that the role-play method provided an engaging, effective way to learn history-taking and expressed strong interest in participating in similar activities in the future.

The control group's performance, while demonstrating solid theoretical knowledge, lacked the practical application and confidence evident in the role-play group. This contrast suggests that traditional didactic lectures, while valuable, may not provide the same level of engagement or practical skill development as interactive learning methods like role-play⁶.

Alignment with Existing Literature

These findings are consistent with existing research that supports the use of role-play in medical education to foster essential clinical skills, particularly communication and patient interaction⁷. Role play is shown to help students transition from theoretical learning to practical application, aligning with, who found that students practicing communication through role play were better equipped for real-world clinical interactions⁸. Furthermore, role-play not only increases student engagement but also serves as a powerful motivator, encouraging students to approach history-taking with greater diligence and to practice these skills in a supportive, simulated environment.

Student Satisfaction and Structured Learning

The positive feedback indicates strong student satisfaction with the role-play method. Students appreciated the structured approach provided by checklists, which ensured comprehensive coverage of history-taking components⁹. This systematic approach reinforced students' learning and provided a clear framework for conducting patient interviews, which they found especially helpful for future clinical interactions. The experiential nature of role-play fostered active participation, critical thinking, and collaboration, making it a more interactive and engaging experience than traditional lectures. These outcomes demonstrated that incorporating simulated patients into medical education improves students' communication skills and ability to manage complex clinical scenarios^{10,11}.

Implications and Future Directions

The findings of this study underscore the value of role-play as an essential educational tool in physiotherapy and medical training. Role-play offers an engaging learning experience that fosters patient-centered care and prepares students more effectively for clinical practice. Future research should explore the long-term impact of role-play on clinical performance and patient care outcomes. Expanding the use of role-play across various clinical topics could further enhance students' readiness for real-world practice, equipping them to meet the demands of their professional careers¹².

Conclusion

This study demonstrates the effectiveness of role-play as an innovative teaching tool for history-taking skills in first-year BPT students, particularly in complex areas like neurological conditions. By serving as a form of early clinical exposure, role-play provided a safe, structured environment that significantly enhanced students' confidence, communication skills, and practical application of theoretical knowledge. Compared to traditional didactic methods, role-play fostered active participation, critical thinking, and collaboration, equipping students with essential skills for patient-centred care.

With the shift towards a competency-based syllabus in physiotherapy education, integrating role-play as a means of early clinical exposure aligns with the need for experiential and skill-based learning. This approach not only strengthens students' clinical competencies but also prepares them for real-world challenges through active learning strategies.

Feedback from students and quiz results indicate that role-play not only improves history-taking abilities but also encourages a deeper understanding of patient interactions and clinical reasoning. These findings support the integration of role-play into physiotherapy and medical education as a transformative approach to preparing students for real-world clinical practice. Future research should explore role-play's long-term impact on clinical outcomes, with potential expansion into various clinical topics to further prepare students for the demands of their professional careers.

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