DOI: 10.53469/jerp.2025.07(04).08

Exploration of Education on Doctor-patient Communication Skills in Clinical Internship Teaching of Orthokeratology Lens Fitting

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Abstract: ***Effective doctor-patient communication stands as a fundamental competency for healthcare professionals and a prerequisite for successful clinical practice. Within orthokeratology lens fitting procedures, exemplary communication skills coupled with appropriate humanistic care not only significantly enhance patient cooperation but also improve adherence to treatment protocols, thereby ensuring safer and more effective orthokeratology application. The purpose of this study is to explore how to effectively cultivate the communication skills of interns during clinical internship teaching in the fitting process of orthokeratology lenses, and to propose corresponding strategies for the current situation of internship teaching. Through the integration of theoretical frameworks and practical applications, we present a series of evidence-based pedagogical strategies designed to advance trainees' communication proficiency in orthokeratology fitting, ultimately optimizing patient care delivery.***

Keywords: Doctor-patient communication, Orthokeratology, Clinical internship, Educational strategy, Medical education**.**

1. Introduction

In recent years, the prevalence of myopia among children and adolescents has been progressively increasing, leading to a surge in patient volumes at ophthalmic clinics. The "Brightness Action Plan for Myopia Prevention and Control in Children and Adolescents (2021-2025)" jointly issued by the General Office of the Ministry of Education and fourteen other departments proposes the overarching goals of continuously reducing myopia rates and effectively improving visual health outcomes in this population. Orthokeratology lenses (OK lenses), as specially designed rigid gas-permeable contact lenses featuring reverse geometry with a flattened central zone and a steepened peripheral curvature, can reshape the corneal topography. This induces a temporary reduction in refractive error, enabling patients to achieve daytime spectacle independence. Contemporary studies have confirmed the significant efficacy of orthokeratology in controlling myopia progression among children and adolescents, which has substantially driven its widespread adoption in China's myopia management protocols [1]. Despite its proven therapeutic benefits and appeal for daytime visual freedom, orthokeratology requires demanding professional expertise in fitting and entails relatively high costs. Effective communication with patients and their guardians is therefore crucial to ensure comprehensive understanding and cooperation, thereby optimizing clinical outcomes. However, current specialized undergraduate education and clinical training programs for orthokeratology predominantly emphasize theoretical knowledge, practical skills, and clinical competency development, while training in doctor-patient communication skills remains relatively inadequate [2-4]. It is imperative to strengthen communication competency training during orthokeratology internships. Only through comprehensive enhancement of trainees' communication capabilities in refractive management can we better prepare future practitioners to deliver patient-centered care.

2. The Necessity of Incorporating Doctor-Patient Communication Education in Clinical Teaching of Orthokeratology Lens Fitting

2.1 Effective Doctor-Patient Communication Enhances Clinical Efficiency

Healthcare professionals' communication and interpersonal skills encompass information-gathering capabilities to ensure accurate diagnosis, appropriate counseling, treatment guidance, and establishment of trusting relationships with patients [5]. These competencies ultimately aim to achieve optimal therapeutic outcomes and patient satisfaction, which are crucial for effective healthcare delivery. Effective communication extends beyond verbal interaction to include nonverbal elements (body language, facial expressions, etc.), serving to build trust, obtain accurate medical histories, and clearly convey treatment protocols and precautions. Enhanced communication significantly improves patient satisfaction with medical services, as well-informed patients typically demonstrate better compliance with treatment regimens. In orthokeratology practice, this is manifested through improved patient adherence to follow-up schedules and timely lens replacement.

2.2 Comprehensive Communication Meets Fundamental Patient Needs

In China, the primary demographic requiring orthokeratology lens fitting comprises children and adolescents. During the fitting process, both pediatric patients and their guardians' understanding of orthokeratology becomes crucial. This necessitates that ophthalmic clinicians attain professional mastery of orthokeratology-related knowledge and develop structured recommendation protocols. Effective communication should ensure thorough comprehension of the

principles, safety profiles, and efficacy of myopia control through orthokeratology. Clinical trainees must recognize that contemporary patients' medical needs extend beyond disease treatment to encompass emotional support. As encapsulated in the medical adage "To cure sometimes, to relieve often, to comfort always," patients frequently experience psychological stress and anxiety during medical encounters. Healthcare providers bear responsibility not only for clinical management but also for delivering humanistic care, psychological support, and emotional reassurance. Despite many clinicians' self-perceived communication competence, patient dissatisfaction persists. Proper doctor-patient communication serves to regulate patient emotions, enhance medical information comprehension, and better identify patients' needs, perspectives, and expectations [6-8].

2.3 Proactive Communication Serves as Safeguard Against Medical Disputes

Effective communication enables clinicians to accurately assess patients' clinical conditions and psychological status, thereby facilitating more targeted treatment planning. Establishing robust communication channels significantly reduces the likelihood of misunderstandings and conflicts, consequently decreasing medical disputes and alleviating professional stress. In orthokeratology practice, given the predominance of pediatric patients, parental anxiety frequently escalates clinical tensions. Comprehensive communication enhances parental understanding of potential adverse effects while appropriate reassurance and empathetic support build trust and alleviate anxiety. These measures collectively ensure smoother implementation of subsequent clinical procedures and long-term management [9-12].

2.4 Doctor-Patient Communication Education as a Mandatory Curricular Component for Orthokeratology Trainees

Transitioning from academic training to clinical internships — particularly in general hospital settings — optometry trainees encounter orthokeratology patients and guardians who typically exhibit well-defined treatment objectives, advanced educational attainment, and heightened health literacy. This reality necessitates communication that surpasses routine clinical interactions in professionalism, patience, and efficacy. Beyond technical expertise in lens fitting and myopia management, cultivating humanistic literacy and structured communication competencies must therefore be recognized as essential educational requirements for optometry trainees. Systematic training in empathy-driven communication frameworks, conflict resolution strategies, and family-centered counseling should be integrated into core clinical curricula to address the sophisticated psychosocial dynamics inherent in orthokeratology practice [13-15].

3. Current Status and Deficiencies in Doctor-Patient Communication Education for Trainees During Orthokeratology Practice

The growing recognition of the importance of doctor-patient communication education in clinical training necessitates a thorough analysis of existing gaps in orthokeratology teaching. Identifying these deficiencies forms the foundation for developing targeted pedagogical strategies. By addressing communication barriers, knowledge gaps, and insufficient practical experience, evidence-based clinical training programs can be designed to strengthen trainees' theoretical understanding and practical competencies in patient interactions.

3.1 Educational Imbalance: Neglect of Communication Training

Clinical instructors often prioritize technical skill acquisition for optometry trainees transitioning from academic settings to clinical practice. Substantial time is devoted to mastering clinical procedures such as parameter selection for contact lens fitting, fluorescein dynamic assessment, lens insertion/removal techniques, and complication management — skills inadequately addressed in university curricula. However, pre-practice communication training remains underdeveloped, leaving trainees unprepared for real-world patient interactions [2], [3], [7]. Systematic guidance in doctor-patient communication is frequently marginalized, resulting in trainees exhibiting unprofessionalism, hesitancy, and ineffective information/emotional conveyance during clinical encounters.

3.2 Inadequate Feedback Mechanisms in Clinical Mentorship

Clinical instructors, often burdened by heavy workloads, struggle to implement structured trainee evaluation and timely feedback. This deficiency is compounded by the absence of bidirectional feedback channels, where trainees cannot formally communicate challenges encountered during orthokeratology procedures or request skill-specific guidance [2], [3], [7]. Furthermore, the lack of standardized assessment criteria for staged clinical competencies—particularly in communication skills—prevents objective identification of trainees' weaknesses and impedes personalized educational interventions.

3.3 Insufficient Training in Emotional Regulation

The transition from academic learning to clinical practice presents multifaceted challenges for trainees. Inexperienced operators of orthokeratology procedures often face heightened stress when managing anxious or emotionally charged patients—a scenario demanding advanced communication proficiency. Under such high-pressure conditions, trainees frequently demonstrate poor emotional self-regulation, manifesting as visible distress or performance deterioration [2], [3], [7]. Compounding this issue is the scarcity of institutional support systems for stress management education, leaving trainees ill-equipped to navigate the psychological demands of clinical practice [16].

4. Educational Strategies for Doctor-Patient Communication in Orthokeratology Clinical Training

The growing emphasis on doctor-patient communication in modern medical education holds particular significance in

orthokeratology practice. Building on the identified deficiencies in current clinical training (Section 2), this section proposes evidence-based pedagogical strategies tailored to the unique demands of orthokeratology internships. These strategies integrate theoretical instruction with immersive skill development, utilizing simulated scenarios, role-playing exercises, and collaborative workshops to enhance trainees' communicative competence and adaptive problem-solving. The ultimate objective is to cultivate clinicians who excel not only in technical proficiency but also in establishing therapeutic alliances with patients. Specific implementation frameworks are outlined below.

4.1 Development of Structured Communication Curriculum

Orthokeratology clinical training programs must incorporate dedicated communication modules alongside technical skill development. Core courses such as Fundamentals of Doctor-Patient Communication and Patient Psychology in Ophthalmic Practice should be systematically integrated to enhance students' understanding of communication principles and therapeutic rapport-building. Key curricular components include:

- Techniques for establishing trust-based physician-patient relationships and fostering collaborative clinical environments

- Active listening strategies to identify patient concerns and unmet needs

- Plain-language communication skills to minimize jargon and improve health literacy

- Emotionally supportive communication frameworks for managing patient anxiety

- Modular integration of communication training within existing orthokeratology curricula

- Collaboration between clinical educators and communication specialists to design case-based learning materials

- Regular assessment via standardized patient encounters to track competency development

Parallel instruction in medical ethics should emphasize patient autonomy, informed consent processes, and cultural sensitivity. Empathy cultivation exercises—such as perspective-taking simulations—enable trainees to contextualize patient experiences, thereby improving diagnostic accuracy, treatment adherence, and satisfaction metrics.

4.2 Implementation of Innovative Pedagogical Approaches

Scenario-based learning, a concept formalized in 1989, forms the theoretical foundation for modern simulation pedagogy. Effective education requires contextual immersion—creating vivid, realistic scenarios to stimulate learner engagement and optimize knowledge retention. UNESCO evaluations of pedagogical methodologies consistently rank simulation - based teaching among the most impactful approaches. In clinical medical education, this method involves instructors simulating authentic clinical encounters, with trainees and/or educators role-playing specific characters to achieve predefined learning objectives. Its successful application across diverse medical disciplines has been well-documented [17].

To enhance engagement and pedagogical effectiveness in orthokeratology communication training, we propose integrating scenario simulations with the GLTC communication model. Developed by Wang Jinfan in 2012 and subsequently incorporated into China's national undergraduate textbook "Doctor-Patient Communication" (2013), the GLTC framework adopts a physician-led structure comprising four phases: Goodwill demonstration, Listening, Two-way communication, and Cooperation. This systematic approach progresses through "Clinician Empathy → Active Listening → Collaborative Dialogue → Therapeutic Partnership." Implementation involves the following stages:

4.2.1 Objective Specification

Cultivate trainees' humanistic literacy and empathic capacities, with emphasis on recognizing patients' emotional and psychological states. Enhance competency in managing complex communication scenarios specific to orthokeratology, including parental anxiety over suboptimal myopia control outcomes.

4.2.2 Case Script Development

Expert clinician-educators collaborate to design authentic communication scenarios based on clinical experiences and trainee-reported challenges. Representative scripts may include:

- Managing parental dissatisfaction with slowed axial length progression

- Addressing guardians' safety concerns regarding overnight lens wear

- Navigating conflicts arising from non-adherence to follow-up protocols

4.2.3 Simulated Role-Playing

Structured simulations involve trainees, instructors, and standardized patients assuming roles (e.g., anxious parent, reluctant adolescent, consulting clinician). Educators guide learners through real-time decision-making, conflict resolution, and adaptive communication strategies [18].

4.2.4 Debriefing and Synthesis

Post-simulation group discussions enable peer critique and self-reflection on communication gaps. Instructors provide structured feedback, highlighting exemplary practices (e.g., effective de-escalation techniques) and areas for improvement (e.g., premature medical jargon use). This phase reinforces

critical thinking and problem-solving competencies through iterative analysis of simulated outcomes.

4.3 Development of Assessment-Feedback Mechanisms and Incentive-Penalty Systems

To systematically enhance trainees' doctor-patient communication skills in orthokeratology practice, a robust evaluation framework with regular feedback cycles must be established. The following tripartite assessment methodology is proposed:

4.3.1 Quantitative Evaluation of Communication Competence

- Patient-Centered Metrics: Administer standardized satisfaction surveys to patients/families following clinical encounters, utilizing anonymized feedback to objectively assess trainee performance.

- Structured Tools: Implement validated assessment instruments such as the SEGUE Framework (Set the Stage, Elicit Information, Give Information, Understand Patient Perspectives, End Encounter*) to quantify communication proficiency across critical domains.

4.3.2 Peer-Learning Feedback Loops

- Inter-Trainee Assessment: Organize structured peer observation sessions where trainees evaluate each other's communication strategies using predefined rubrics, fostering collaborative skill refinement.

- Curriculum Co-Design: Establish formal trainee feedback channels to evaluate teaching efficacy, enabling iterative optimization of communication training content and delivery modalities.

4.3.3 Expert-Led Formative Evaluation

- Scheduled Performance Reviews: Conduct biweekly evaluations where clinical preceptors:

- Document specific competencies (e.g., rapport-building, conflict resolution)

- Identify developmental gaps (e.g., inadequate nonverbal communication, delayed empathy responses)

- Provide tailored improvement plans with SMART objectives (Specific, Measurable, Achievable, Relevant, Time-bound)

Incentive-Penalty Implementation

- Performance-Linked Recognition: Incorporate communication assessment results into final clinical competency certifications, with top performers eligible for academic awards or advanced training opportunities.

- Remediation Protocols: Mandate targeted communication workshops for trainees scoring below benchmark thresholds, coupled with longitudinal progress monitoring.

Operational Benefits

- Standardization: Unified metrics ensure equitable trainee evaluation across clinical settings.

- Accountability: Transparent tracking mechanisms promote professional responsibility.

- Continuous Improvement: Cyclic feedback integrates real-world insights into curriculum evolution.

5. Conclusion

Doctor-patient communication competence constitutes an essential medical quality for clinical trainees, particularly critical in orthokeratology practice. Current clinical training programs must transcend traditional emphasis on theoretical knowledge and technical skills to prioritize structured communication skill development. Through systematic curriculum design, innovative pedagogical approaches, and robust feedback mechanisms, we can cultivate a new generation of orthokeratology specialists equipped with both technical mastery and exceptional interpersonal capabilities. Continuous refinement of communication education frameworks—encompassing training, evaluation, and competency advancement—will optimize physician-patient relationships during orthokeratology implementation, ultimately elevating clinical outcomes and healthcare service quality.

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