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Experiences of a Teaching Practicum in Vestibular Rehabilitation in a Public Health Service

Vivências de um Estágio de Docência em Reabilitação Vestibular em um Serviço Público de Saúde

Vivencias de un Practicum Docente en Rehabilitación Vestibular en un Servicio Público de Salud

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Abstract

Introduction: In human beings, body balance is ensured by the integration of sensory information from the visual, proprioceptive, and vestibular systems. Any conflict within this set can trigger dizziness and/or imbalance. Vestibular rehabilitation is an approach used in the treatment of patients with vestibular dysfunctions, aiming to promote the improvement of overall balance and the restoration of spatial orientation as close as possible to physiological levels. **Objective:** To describe the experience of resident speech-language pathologists in Audiology and a master's student in Speech-Language Pathology during

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Authors' contributions:
JTFSB: study conceptualization; methodology; data collection; article draft; critical review.
ISA: methodology; article draft.
MTMO, PAN, GBO, VRB: methodology; data collection; article draft.
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a teaching internship in Vestibular Rehabilitation, carried out in a public health service. **Methods**: This is an experience report developed between April and June 2024, which integrated theoretical activities, active methodologies, and supervised clinical care for patients with complaints of dizziness, vertigo, and imbalance. The interventions included clinical assessment, otolith repositioning maneuvers, and therapeutic exercises, based on the Cawthorne and Cooksey protocol. **Results:** The experience favored the development of technical skills, clinical reasoning, professional autonomy, and ethical conduct, in addition to strengthening the understanding of speech-language pathology practice in vestibular rehabilitation. **Conclusion:** The teaching internship constitutes a relevant training strategy, articulating theory, practice, and care within the context of public health.

Keywords: Teaching; Rehabilitation; Dizziness; Vertigo; Speech-Language and Hearing Sciences.

Resumo

Introdução: No ser humano, o equilíbrio corporal é garantido pela integração de informações sensoriais provenientes dos sistemas visual, proprioceptivo e vestibular. Qualquer conflito nesse conjunto pode desencadear tontura e/ou desequilíbrio. A reabilitação vestibular é uma abordagem utilizada no tratamento de pacientes com disfunções vestibulares, com o objetivo de promover a melhora do equilíbrio global e a restauração da orientação espacial para o mais próximo possível do fisiológico. **Objetivo:** Descrever a vivência de fonoaudiólogos residentes em Audiologia e de uma mestranda em Fonoaudiologia durante o estágio-docência em Reabilitação Vestibular, realizado em um serviço público de saúde. **Métodos:** Trata-se de um relato de experiência, desenvolvido entre abril e junho de 2024, que integrou atividades teóricas, metodologias ativas e atendimento clínico supervisionado a pacientes com queixas de tontura, vertigem e desequilíbrio. As intervenções incluíram avaliação clínica, manobras de reposicionamento otolítico e exercícios terapêuticos, baseados no protocolo de Cawthorne e Cooksey. **Resultados:** A experiência favoreceu o desenvolvimento de competências técnicas, raciocínio clínico, autonomia profissional e postura ética, além de fortalecer a compreensão da atuação fonoaudiológica na reabilitação vestibular. **Conclusão:** O estágio-docência constitui uma estratégia formativa relevante, ao articular teoria, prática e cuidado no contexto da saúde pública.

Palavras-chave: Docência; Reabilitação; Tontura; Vertigem; Fonoaudiologia.

Resumen

Introducción: En el ser humano, el equilibrio corporal está garantizado por la integración de información sensorial proveniente de los sistemas visual, propioceptivo y vestibular. Cualquier conflicto en este conjunto puede desencadenar mareo y/o desequilibrio. La rehabilitación vestibular es un abordaje utilizado en el tratamiento de pacientes con disfunciones vestibulares, con el objetivo de promover la mejora del equilibrio global y la restauración de la orientación espacial lo más cercana posible a lo fisiológico. **Objetivo:** Describir la vivencia de fonoaudiólogos residentes en Audiología y de una maestranda en Fonoaudiología durante la pasantía docente en Rehabilitación Vestibular, realizada en un servicio público de salud. **Métodos:** Se trata de un relato de experiencia, desarrollado entre abril y junio de 2024, que integró actividades teóricas, metodologías activas y atención clínica supervisada a pacientes con quejas de mareo, vértigo y desequilibrio. Las intervenciones incluyeron evaluación clínica, maniobras de reposicionamiento otolítico y ejercicios terapéuticos, basados en el protocolo de Cawthorne y Cooksey. **Resultados:** La experiencia favoreció el desarrollo de competencias técnicas, razonamiento clínico, autonomía profesional y postura ética, además de fortalecer la comprensión de la actuación fonoaudiológica en la rehabilitación vestibular. **Conclusión:** La pasantía docente constituye una estrategia formativa relevante, al articular teoría, práctica y cuidado en el contexto de la salud pública.

Palabras clave: Docencia; Rehabilitación; Mareo; Vértigo; Fonoaudiología.

Introduction

The teaching internship is a central strategy in health professional training, integrating education, healthcare, and the community. It also develops technical-pedagogical competencies across various training levels. In the Brazilian context, the supervised internship bridges academia and health services, guiding students in linking theory and practice through the active participation of professionals, the university, and the community. Integrating education and service during the internship fosters mutual transformation for both students and health professionals, streamlining service routines and stimulating changes in clinical practice[1,2].

Bridging theory and practice plays a vital role in health, where theoretical knowledge must be coupled with the development of skills for assessment, decision-making, and intervention. Practice-based learning allows students to experience situations similar to those they will encounter in their professional careers, thereby reinforcing classroom knowledge[3].

The teaching internship in postgraduate health education offers a first encounter with higher education teaching and the development of relevant pedagogical competencies, serving as a key opportunity for these students to engage with teaching activities in higher education. Beyond fostering academic participation, this experience can help them develop skills related to planning, organizing, and conducting teaching activities, with various pedagogical strategies[4].

In the training of speech-language-hearing (SLH) pathologists, practical experience in otoneurology during the teaching internship is crucial for consolidating theoretical learning and developing the clinical skills needed to diagnose and treat individuals with vestibular disorders. Practical work during the internship not only enhances the technical proficiency of interns but also equips them to manage the diverse range of individual responses to proposed therapies, thereby promoting personalized care tailored to patient needs[5].

Vestibular rehabilitation (VR) is a therapeutic approach for individuals with vestibular disorders, aiming to improve overall balance and restore spatial orientation to a state as close to physiological as possible through exercises that gradually reduce these patients' vestibular symptoms[6-8]. Another treatment option involves canalith repositioning maneuvers, specifically used for benign paroxysmal positional vertigo (BPPV)[9], a condition recently renamed peripheral paroxysmal positional vertigo (PPPV)[10] to distinguish it from central vertigo based on symptom characteristics and intensity. PPPV is a common vestibular disorder, affecting approximately 20% of patients.

The prevalence of vestibular disorders such as dizziness and imbalance in the general population is high and rising, ranging from approximately 5% in children to over 50% in the oldest-old, with a consistent female predominance and strong associations with age, comorbidities, and poorer mental health[11]. Therefore, bridging theory and practice enables students to actively participate in clinical VR settings, providing clinical experience with this high-prevalence population and preparing professionals to develop technical-scientific and social skills (e.g., communication, ethics, and empathy), which are essential for managing patients with vestibulopathies.

Thus, the teaching internship in VR described in this study is a significant stage in health professional training, offering an experience that combines theory and practice and directly impacts the development of competencies required to manage patients complaining of dizziness and imbalance. This article describes the experiences of undergraduate SLH interns specializing in audiology and an SLH master's student during their teaching internship in VR, which involved therapeutic interventions for patients with complaints of dizziness, vertigo, and/or imbalance. The interventions included canalith repositioning maneuvers, when indicated, or specific VR exercises tailored to each patient's needs.

Objective

This study aimed to describe the experiences of audiology interns and an SLH master's student during a teaching internship in VR at a public health service.

Methods

This study reports the experience of four audiology interns and an SLH master's student during a teaching internship in VR, conducted between April and June 2024 at a Specialized Rehabilitation

Center (CER, in Portuguese) in a city in Northeastern Brazil. The service, affiliated with the Unified Health System (SUS), offers motor, auditory, and intellectual rehabilitation, and provides orthoses and hearing aids.

They held 12 sessions, totaling 48 hours, with a schedule of 4 hours per week. The first two sessions focused on theoretical and practical leveling for the interns. The following session was dedicated to an interactive lecture, while the remaining sessions were devoted to patient care. All patients were referred by the CER's otolaryngologist. They were informed about the activities conducted during the teaching internship and authorized the use of their anonymous clinical information for academic and scientific purposes. Participant anonymity and confidentiality were maintained, using no information that could identify them.

The activities were organized into three axes: (1) theoretical leveling, using active learning with an interactive quiz on otoneurology and VR; (2) interactive lectures covering vestibular physiology, otoneurological assessment, and VR principles; and (3) supervised clinical care for patients complaining of dizziness, vertigo, and imbalance, including case history taking, clinical assessment, and therapeutic strategy planning.

The teaching internship activities involved lectures delivered by the SLH master's student and supervision of the patient care provided by the audiology interns. All activities carried out throughout the internship were supervised and coordinated by the faculty member responsible for the department. A pair of interns conducted patient consultations, while the others observed for subsequent case discussion. The service's otolaryngologists referred the patients for vestibular assessment and/or VR.

Initially, each intern introduced themselves, outlining their academic background and professional experience in the field. All interns had attended lectures on vestibular assessment and VR during their undergraduate studies. However, some lacked practical experience with vestibular assessment, and only one had practical experience with VR. Then, an interactive quiz featuring questions and answers on otoneurology and VR was conducted using an active learning methodology.

Practical activities began with the master's student presenting the patients and their clinical histories to the interns, followed by a brief discussion of each case and the selection of the optimal therapeutic strategy. Options included canalith repositioning maneuvers (e.g., the Epley maneuver[12] and the Gufoni maneuver[13]) and VR exercises to foster adaptation, habituation, and substitution and achieve vestibular compensation.

Next, they surveyed the patient's medical history and assessed them with an institutional vestibular assessment protocol. Initially, oculomotor function was evaluated by assessing spontaneous nystagmus, gaze-evoked (semi-spontaneous) nystagmus, saccadic movements, and smooth pursuit (pendular tracking), alongside static and dynamic balance assessments using the Romberg, Unterberger, and gait tests. Cerebellar function tests were also performed, including diadochokinesia, index-to-index, and index-to-nose tests. Additionally, the Head Impulse Test was conducted to evaluate vestibulo-ocular reflex (VOR) function, and the Head Shaking Test was used to investigate vestibular asymmetries.

VR therapy sessions were tailored to each patient's needs, with exercises based on the Cawthorne & Cooksey VR protocol[14]. This method was selected because it establishes VR principles and addresses concepts (e.g., habituation, adaptation, and functional progression) that remain relevant today. Moreover, it has practical clinical applications and facilitates clinical reasoning for students.

Therapy was administered individually, with protocol exercises adapted for each patient. One 30-minute session was held per week, totaling six treatment sessions. This duration was shortened due to service organization requirements and patient referral logistics. VR intervention plans were developed by interns and approved in advance by the faculty member responsible for the department.

Instructions were provided at the end of each session. Patients undergoing VR were instructed on how to perform the session's exercises at home and were advised to keep their eyes open and fix their gaze on a stationary point to alleviate symptoms should they experience dizziness. Patients who underwent canalith repositioning maneuvers were instructed to avoid sudden head movements following the procedure.

A clinical PPPV session followed the teaching internship activities, allowing interns to apply the knowledge they had acquired. The patient presented with right posterior semicircular canal PPPV, diagnosed via the Dix-Hallpike maneuver. Following diagnosis, the Epley maneuver was

performed for canalith repositioning. The patient returned one week later with no vertigo or nystagmus upon reassessment with the Dix-Hallpike maneuver. The session was conducted by a pair of interns and observed by the other ones.

Results and discussion

The teaching internship in VR expanded the interns' theoretical and practical knowledge and provided greater confidence in managing patients with vestibular disorders. They observed a reduction in patient-reported complaints of dizziness and bodily instability during follow-up, associating this change with patient engagement in therapeutic and home-based activities. The lecture and quiz facilitated an introductory discussion on fundamental concepts in the field and helped standardize the interns' level of knowledge.

Interns had the opportunity to experience the practical application of theoretical VR concepts for the first time. This included using validated VR protocols, such as the Cawthorne & Cooksey protocol[14], performing and instructing patients on VR exercises, performing canalith repositioning maneuvers, and managing the clinical care of individual patients. These findings align with existing literature, which identifies VR as an effective treatment for vestibular disorders[15,16] and the Epley maneuver as the first-line treatment for posterior semicircular canal PPPV[17].

From a pedagogical standpoint, the internship allowed interns to consolidate theoretical knowledge in a practical, contextualized manner, fostering clinical learning in a rapidly expanding SLH area. The internship also developed their clinical reasoning skills, teaching interns to interpret signs and symptoms of dizziness and imbalance, assess patients, and select therapeutic approaches tailored to each patient's needs. Furthermore, it enabled the acquisition and development of technical skills in performing clinical vestibular tests as well as diagnostic and therapeutic maneuvers for PPPV.

The teaching internship in VR provided students with innovative experience in treating patients with dizziness, given that only one intern had prior experience with this type of care. Although the number of consultations was limited to a total of 30 hours, it was sufficient to demonstrate the positive impact of supervised practice on SLH training and on the expansion of services offered to the public.

The teaching internship enabled the master's student to apply the knowledge acquired during postgraduate studies in a practical setting, providing her with her first teaching experience as well as the opportunity to develop teaching competencies, pedagogical planning skills, and the ability to reflect on strategies used to foster learning. This aspect underscores the importance of the teaching internship as a formative space within postgraduate education, especially when the activity involves planning, supervision, and critical reflection on pedagogical practice.

Internship supervision plays a key role in familiarizing students with the clinical reasoning inherent to SLH practice. A study involving SLH internship supervisors at a public university in Alagoas, Brazil, indicated that recommending supplementary readings, providing oral explanations, and demonstrating techniques and procedures during supervision are central strategies for bridging theory and practice and introducing students to the clinical reasoning required for the profession, particularly during supervised internships[18].

Similarly, research on student perceptions of clinical SLH supervision found that students recognize supervision as a means to strengthen their theoretical foundation and clinical reasoning, highlighting the supervisor as a key figure in the teaching-learning process for professional skills and competencies[19]. In the case of the teaching internship in VR, this development manifests through the monitoring of the intern-instructor's own reasoning when facing complex vestibular conditions and through the mediation of clinical reasoning, a process requiring simultaneous technical and pedagogical mastery.

The experience integrated theory and practice, clinical reasoning, supervised decision-making, autonomy, and reflection, while also helping them understand the importance of collaborative healthcare. At the same time, it provided the postgraduate student with experience in planning and conducting the teaching-learning process, demonstrating that pedagogical practices grounded in active student participation and engagement with real-world professional scenarios can contribute to more critical, reflective, and prepared training for the demands of SLH practice.

A limitation of this report is the small number of patients treated, specifically, one patient undergoing VR and one with PPPV. This low number

resulted from the limited duration of the teaching internship and the low volume of referrals for VR during the study period, which restricted the number of cases and the scope for broader comparative analyses. Furthermore, the limited duration of the VR treatment prevented the observation of long-term outcomes and the sustained impact of the interventions on the patients' quality of life. Despite these constraints, the experience highlighted the educational and therapeutic potential of VR within the SLH context.

Future prospects include expanding the number of patient encounters and implementing systematized follow-up protocols, enabling the collection of quantitative and qualitative data to support research and strengthen the permanent integration of VR into health services and professional training programs. This fosters the expansion of academic and professional education, the integration of theory and practice, the development of clinical reasoning and technical skills, the cultivation of teaching competencies, and preparation for the job market.

Conclusion

The teaching internship proved to be an enriching experience for both teacher training and the interns' learning. The activities integrated previously acquired theoretical knowledge with clinical experience in the rehabilitation of vestibular disorders.

This practical experience fostered greater confidence in performing vestibular tests, interpreting clinical findings, and understanding the principles guiding VR. From the perspective of the teaching internship, the experience strengthened the postgraduate student's pedagogical competencies, developing her planning and communication skills and facilitating theoretical-practical activities.

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