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Exploring Physiotherapists' Perceptions of Virtual Reality in Rehabilitation: A Qualitative Case Study in Malaysia

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ABSTRACT

Background: Virtual reality (VR) has emerged as an innovative rehabilitation tool that enhances patient engagement and supports functional recovery. Despite its growing use in rehabilitation, the adoption of VR in Malaysian physiotherapy practice remains limited, and little is known about physiotherapists' experiences and perceptions regarding its implementation. **Objective:** This study aimed to explore physiotherapists' perceptions of virtual reality for rehabilitation purposes and identify factors influencing its adoption in clinical practice. **Methods:** A qualitative case study design was employed. Eight registered physiotherapists with experience using VR in rehabilitation were recruited through purposive sampling from rehabilitation centres and hospitals in Malaysia. Data were collected through semi structured interviews and analysed using Braun and Clarke's six phase thematic analysis. Interview transcripts were coded and organised using NVivo software to identify recurring themes and patterns. **Results:** Six major themes emerged from the analysis: benefits of VR in rehabilitation, barriers to VR implementation, therapist related factors, patient related factors, technology related factors, and clinical application of VR. Participants reported that VR increased patient motivation, engagement, and adherence to rehabilitation programmes while providing opportunities for task specific and interactive training. However, several barriers were identified, including high equipment costs, limited training opportunities, technical issues, and concerns regarding patient suitability. Physiotherapists also highlighted the importance of organisational support, professional competency, and technological accessibility in facilitating successful VR integration into clinical practice. **Conclusion:** Physiotherapists generally viewed VR as a valuable adjunct to conventional rehabilitation that can enhance patient participation and treatment outcomes. Nevertheless, challenges related to cost, training, and implementation continue to limit its widespread adoption. Addressing these barriers through education, institutional support, and improved access to technology may promote greater integration of VR into Malaysian rehabilitation services.

Keywords: Virtual reality, physiotherapy, rehabilitation, physiotherapists' perceptions, qualitative research, thematic analysis, Malaysia

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