Virtual Reality Therapy

Chronic pain is one of the most common and debilitating health conditions. Chronic low back pain treatments typically focus on biomedical treatment approaches. While psychosocial treatments exist, multiple barriers prevent broad access. There is a significant unmet need for integrative, easily accessible, non-opioid solutions for chronic pain. Virtual reality (VR) is an immersive technology allowing innovation in the delivery of behavioral pain treatments. Behavioral skills-based VR is effective at facilitating pain management and reducing pain-related concerns. Continued research on these emerging approaches is needed.

In a randomized controlled trial, Garcia et al. sought to test the efficacy of a self-administered behavioral skills-based VR program as a nonpharmacological home-based pain management treatment for people with chronic low back pain (cLBP).

They will randomize 180 individuals with cLBP to 1 of 2 VR programs: (1) EaseVRx (8-week skills-based VR program); or (2) Sham VR (control condition). All participants will receive a VR headset to minimize any biases related to the technology's novelty. The Sham VR group had 2D neutral content in a 3D theater-like environment. Our primary outcome is average pain intensity and pain-related interference with activity, stress, mood, and sleep. Our secondary outcomes include patient-reported physical function, sleep disturbance, pain self-efficacy, pain catastrophizing, pain acceptance, health utilization, medication use, and user satisfaction. They hypothesize superiority for the skills-based VR program in all of these measures compared to the control condition. Team statisticians blinded to treatment assignment will assess outcomes up to 6 months posttreatment using an approach suitable for the longitudinal nature of the data.

The study was approved by the Western Institutional Review Board on July 2, 2020. The protocol (NCT04415177) was registered on May 27, 2020. Recruitment for this study was completed in July 2020, and data collection will remain active until March 2021. In total, 186 participants were recruited. Multiple manuscripts will be generated from this study. The primary manuscript will be submitted for publication in the winter of 2020.

Effectively delivering behavioral treatments in VR could overcome barriers to care and provide scalable solutions to chronic pain's societal burden. The study could help shape future research and development of these innovative approaches [1].

[1]
Garcia LM, Darnall BD, Krishnamurthy P, Mackey IG, Sackman J, Louis RG, Maddox T, Birckhead BJ. Self-Administered Behavioral Skills-Based At-Home Virtual Reality Therapy for Chronic Low Back Pain: Protocol for a Randomized Controlled Trial. JMIR Res Protoc. 2021 Jan 19;10(1):e25291. doi: 10.2196/25291. Erratum in: JMIR Res Protoc. 2021 Feb 12;10(2):e27652. PMID: 33464215; PMCID: PMC7854039.