

The ReliVR Project: Feasibility of a Virtual Reality Intervention in the Psychotherapy of Depression

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Abstract : Virtual Reality (VR) is increasingly recognized for its potential in transforming mental disorder treatment, offering advantages such as cost-effectiveness, time efficiency, accessibility, reduced stigma, and scalability. While the application of VR in the context of anxiety disorders has been extensively evaluated and demonstrated to be effective, the utilization of VR as a therapeutic treatment for depression remains under-investigated. Our goal is to pioneer immersive VR therapy modules for treating major depression, alongside a web-based system for home use. We develop a modular digital therapy platform grounded in psychodynamic therapy interventions which addresses stress reduction, exploration of social situations and relationship support, social skill training, avoidance behavior analysis, and psychoeducation. In addition, an automated depression monitoring system, based on acoustic voice analysis, is implemented in the form of a speech-based diary to track the affective state of the user and depression severity. The use of immersive VR facilitates patient immersion into complex and realistic interpersonal interactions with high emotional engagement, which may contribute to positive treatment acceptance and satisfaction. In a proof-of-concept study, 45 depressed patients were assigned to VR or web-platform modules, evaluating user experience, usability and additional metrics including depression severity, mindfulness, interpersonal problems, and treatment satisfaction. The findings provide valuable insights into the effectiveness and user-friendliness of VR and web modules for depression therapy and contribute to the refinement of more tailored digital interventions to improve mental health.

Keywords : virtual reality therapy, digital health, depression, psychotherapy

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