Effectiveness of Virtual Reality Mindfulness Intervention for Students with Symptoms of Depression

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Abstract

Background and Aim: Mindfulness-based cognitive-behavioral therapy (MBCBT) proved efficacy in addressing mental health psychopathology. Concurrently, virtual reality (VR) technology offer interactive and immersive environments that simulate real-life experiences. In this study, we compared mindfulness interventions delivered in VR and online on students with symptoms of depression, examining clinical efficacy and mindfulness awareness levels. *Materials and Methods*: We are conducting a prospective experimental analytical study targeting students enrolled in undergraduate, master's, or doctoral programs. Students enrolled at nursing program at Iuliu Haţieganu University of Medicine and Pharmacy Cluj-Napoca, or at the Faculty of Psychology and Educational Sciences of Babeş-Bolyai University Cluj-Napoca were invited (online via social media or by teaching staff) to participate. The study is conducted from January to June 2024. Participants were randomly assigned to the MBCBT intervention in VR group or the online psychotherapeutic intervention group. We assessed depressive symptoms and mindfulness awareness pre- and post-intervention using the Beck Depression Inventory version II (BDI-II) and the Mindful Attention Awareness Scale (MAAS). Refusal to participate, withdrawal of consent, and absence of depression symptoms were the main exclusion criteria. *Results:* To date, 43 eligible participants have been randomized into intervention groups, with nine undergoing VR intervention, seven undergoing online intervention, and the rest awaiting intervention. The average age of participants is 26.9 years, with a majority from urban areas, predominantly unmarried, and students enrolled at the Iuliu Haţieganu University of Medicine and Pharmacy. VR intervention has shown a greater impact on depression symptoms, with a 17.9% lower average BDI score compared to online intervention. Participants in the VR group also demonstrated a higher mindfulness awareness, with a 10.63% higher average MASS score, compared to the online intervention group. *Conclusion:* To date, VR mindfulness psychotherapeutic intervention appears superior to online delivery; however, further validation on a larger sample is warranted.

Keywords: Mindfulness-based cognitive-behavioral therapy (MBCBT)*;*Virtual reality (VR)*;* Depression symptoms*;* Psychotherapeutic intervention