LETTER

Virtual reality for the treatment of posttraumatic disorders

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Dear editor

We read with great interest the recent study by Botella et al[1] published in the journal *Neuropsychiatric Disease and Treatment*. Virtual reality (VR) technology has allowed for the neuropsychological rehabilitation in patients with many neurological diseases including stroke and traumatic brain injury.[2,3] This contribution is due to the VR's ability to create standardized environments (replicable and ecological) that are difficult to deliver and control in the real world.[4,5] For example, exercises that would be too dangerous to be performed and practiced in the real world could be done in a virtual environment. The implementation of VR systems could allow the involvement of specialists and caregivers to easily modify the tasks according to the needs and difficulties of the patient.[6] Botella et al's[1] paper focused on reviewing the use of virtual reality exposure-based therapy (VR-EBT) and its adequacy, acceptability, and efficacy in the treatment of patients with posttraumatic stress disorder.

Botella et al[1] performed a broad review about the use of VR-EBT, discussing the recommended duration, periodicity, and number of sessions. This way, the authors showed a relative lack of standardization among the articles reviewed, making the comparison of results difficult. However, the recommended session duration proposed by the authors (90 minutes) should be interpreted with caution. Exposure to VR can lead to symptoms of cybersickness, for example, eye strain, headache, sweating, nausea, and disorientation.[6] These symptoms can be enhanced by the type of technology used and the amount of time the person was exposed to it. In this review by Botella et al,[1] most articles used a head-mounted display (nine out of 12) as the VR device. Head-mounted displays have been reported to cause increased levels of nausea compared with desktop viewing.[7] This effect can be diminished with the use of a head-tracking system, higher quality devices, and devices with lower latency.[6]

Despite the exhaustive discussion of treatments in this paper, some considerations were not included; the type of VR device and the quality of the virtual environment may have influenced the results obtained and if the gain achieved by the treatment with virtual reality justify the increased cost. Finally, they failed to consider an aspect that we believe is important in clinical use of VR system: the importance of the therapist involvement in the treatment outcome. So, as described by Botella et al,[1] VR-EBT in the treatment of neuropsychiatric diseases is a promising method. These small caveats, however, do not take away the main relevant messages and discussion raised by Botella et al.[1]

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Disclosure

The authors report no conflicts of interest in this communication.

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