Effect of sensorimotor rehabilitation based on an immersive virtual reality model on mental health

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Abstract

The aim of this study was to determine the immersive virtual reality-based sensorimotor rehabilitation (IVR-SRB) effect on mental health (global mental health, depression, anxiety and well-being) in older adults. Methods: This study was experimental, with a sample of 111 older adults (control-experimental), considering an application of IVR-SRB in four different virtual settings with exteroceptive synchronization, proprioceptive and vestibular stimuli, for 6 weeks. Outcome variables: symptoms associated with depression and anxiety; positive mental health (psychological well-being). A descriptive and inferential approach was used to analyze the data, and the ANCOVA test was used to compare the post-intervention groups, controlled by the baseline; In case of baseline moderation, a linear regression model was applied to identify the level of moderation and a region of significance analysis. Results: An IVR-SRB positive net effect was found in the reduction of symptoms of global mental health ($p < 0.0001$) and depression ($p < 0.0001$), without baseline moderation. The anxiety scores showed moderation at the beginning ($p < 0.0001$; $b = -0.53$), identifying that the greater the presence of anxiety symptoms, the greater the effect of IVR-SRB in reducing these symptoms; its effect is present from scores of 2.9 (Goldberg-12). There were no changes in well-being. Conclusion: IVR-SRB is recognized as a great intervention tool among elderly population, showing its multidimensional approach capacity, properly responding to the reduction of symptoms associated with mental disorders. © 2021 John Wiley & Sons Ltd.