Virtual Reality for Supporting the Treatment of Depression and Anxiety: Scoping Review

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Abstract

Background: Mental health conditions pose a major challenge to health care providers and society at large. The World Health Organization predicts that by 2030, mental health conditions will be the leading cause of disease burden worldwide. The current need for mental health care is overwhelming. In New Zealand, 1 in 6 adults has been diagnosed with common mental disorders, such as depression and anxiety disorders, according to a national survey. Cognitive behavioral therapy (CBT) has been shown to effectively help patients overcome a wide variety of mental health conditions. Virtual reality exposure therapy (VRET) might be one of the most exciting technologies emerging in the clinical setting for the treatment of anxiety and depression.

Objective: This study aims to investigate the virtual reality (VR) technologies currently being used to help support the treatment of depression and anxiety. We also aim to investigate whether and how CBT is included as part of VRET and look at the VR technologies and interventions that have been used in recent studies on depression and anxiety.

Methods: We performed a scoping review. To identify significant studies, we decided to use already aggregated sources from the Google Scholar database. Overall, the goal of our search strategy was to limit the number of initial results related to VR in mental health to only a relevant minimum.

Results: Using our defined keywords, Google Scholar identified >17,300 articles. After applying all the inclusion and exclusion criteria, we identified a total of 369 articles for further processing. After manual evaluation, 34 articles were shortlisted; of the 34 articles, 9 (26%) reported the use of CBT with VR. All of the articles were published between 2017 and 2021. Out of the 9 studies, CBT was conducted within a VR environment in 5 (56%) studies, whereas in the remaining 4 (44%) studies, CBT was used as an addition to VRET. All 9 studies reported the use of CBT either in vivo or in a virtual environment to be effective in supporting the treatment of anxiety or depression.

Conclusions: Most studies demonstrated the use of VR to be effective for supporting the treatment of anxiety or depression in a range of settings and recommended its potential as a tool for use in a clinical environment. Even though standalone headsets are much easier to work with and more suitable for home use, the shift from tethered VR headsets to standalone headsets in the mental health environment was not observed. All studies that looked at the use of CBT either in vivo or in a virtual environment found it to be effective in supporting the treatment of anxiety or depression.

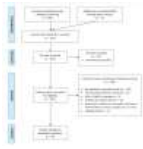**Keywords:** CBT; anxiety; depression; mental health; virtual reality.

Figures

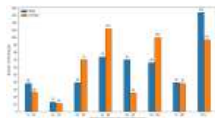**Figure 1** Literature screening and selection flowchart...

Figure 2 Gender distribution of participants.

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