



Virtual Reality Therapy For Anxiety Disorders Among General Population – Review Article

¹Shaivi Thakur, ²Ishaan Gupta, ³Ishu Verma, ⁴Sonali Vij, ⁵Khushboo

^{1,2,3}Assistant Professor, ^{4,5}Post Graduate Student

^{1,2,3,4,5}Department of Physiotherapy,

^{1,2,3,4,5}Desh Bhagat University, Mandi Gobindgarh, India

Abstract: Technological innovation has enabled physiotherapy to apply new possibilities in the rehabilitation of patients, especially in the use of virtual reality (VR). Virtual reality therapy stimulates real life learning incorporating increased sensory input by the use of technology. Immersion in a computer-generated virtual world reduces avoidance and increases emotional processing. In recent years, virtual reality (VR) has become an interesting alternative to traditional exposure-based therapies for anxiety disorders. Anxiety-disorders are the most common mental illness among general population. They are characterized by intense and prolonged feelings of fear, distress, excessive worry, pre-occupation, obsessive thoughts and apprehension. The objective of this study is to establish the effectiveness of virtual reality (VR) based treatment for anxiety disorders among general population. The research strategy of this review included three electronic databases (MEDLINE/ Pub Med, Google Scholar and Springer) based upon pre-determined inclusion and exclusion criteria. The evidence suggest that virtual reality is a promising intervention with several potential application in the inpatient medical setting. Hence, the findings of this review are congruent with those of previous researches and suggest that VR can be effectively used to manage anxiety disorders among general population.

Keywords - Anxiety, virtual reality, physiotherapy, rehabilitation.

INTRODUCTION

The history of VR-based technologies

Virtual reality (VR) is a technology that allows people to interact realistically with computer-generated environments. This technology has been employed for mental health treatment and clinical research.

By exposing people to their concerns in a safe and regulated manner, virtual reality (VR) can be utilized to treat mental health issues, particularly anxiety disorders [1,2].

VR was created in the mid-20th century by inventors who intended to provide consumers with immersive and interactive experiences [3].

When psychologists began to utilize VR for exposure treatment and discovered that it was beneficial for treating anxieties and other disorders in the 1990s and 2000s, it gained popularity. The first study on VR-based exposure therapy (VRE) found it helpful for treating acrophobia, prompting further research into its usage for anxiety disorders and other mental health conditions [3,4].

What is virtual reality therapy?

Virtual reality treatment enhances real-life learning by increasing sensory input via the use of technology. Interaction with 3D technology provides feedback and adjustments to participants while doing tasks with the computerized environment [5]. Virtual reality signifies a turning point in the human-computer connection, as it has the potential to enable the user to experience the "sense of presence", thereby making the basic shift from the sensation of "recognizing information" to the sensation of "being in the place of information" [6,7]. Virtual reality is one of the most promising and emerging rehabilitation techniques. It has been used to exacerbate symptoms of stroke, anxiety, depression, and a variety of other diseases. Virtual reality is being employed in a variety of ways, including the x-bot Kinect, iPad, and Nintendo Wii [8].

Anxiety disorders

Anxiety disorders are the most common mental illness among general population [9]. They are characterized by intense and prolonged feelings of fear, distress, excessive worry, pre-occupation, obsessive thoughts, and apprehension [10,11]. The use of exposure therapy is a sort of treatment that helps people in overcoming anxieties by confronting them in a safe environment. Virtual reality (VR) is a technology that provides realistic simulations of situations that people are scared of, such as heights and crowds etc. [12]. VR may be used for exposure treatment because it helps patients feel as if they are actually present and can be adjusted to their particular needs. Many studies have demonstrated that VR exposure treatment is effective for a variety of anxiety problems, and it can also help patients feel less worried in real life [13-15].

Role of virtual reality therapy in anxiety disorders?

In conventional exposure treatment, imaginal exposures rely on patient's ability to properly visualize certain frightening stimuli [16]. VR eliminates a possible barrier for those who have difficulties imagining or visualizing. In-vivo exposures can be costly whereas VR approaches allow for an inexpensive approach and the possibility of constructing exposures that may be difficult to implement in-vivo [17,18]. VR has the potential to be a very useful tool for the mental health field since it allows for constant evaluation, replication, and modification of the user experience in a secure setting without compromising its practicality [19-21]. The idea is to employ VR to allow the therapist to create a personalized path for the participant in order for him to gain "in virtual" the skills required for an effective adjustment in the "real" environment [22]. In reality, by offering users with a highly realistic, flexible, enjoyable, safe, and controlled simulation, they may develop the abilities, confidence, and mental and psychophysical preparation required for real-world activities [23-25].

NEED OF THE STUDY

As virtual reality therapy emerged as a promising tool for stress reduction offering a wide range of immersive relaxation experiences that can be helpful for general population.

Hence, the objective of this study is to establish the effectiveness of virtual reality (VR) based treatment for anxiety disorders among general population.

RESEARCH METHODOLOGY

The study is a review of literature, which allows for comprehensive evaluation. We anticipate that the Narrative review will come across a wider variety of papers and a large number of studies in which VR has been used. The main approaches employed in the research procedure were the describing of the aim, inclusion and exclusion criteria, selection of publications using specified databases, and an in-depth search for study papers.

Electronic searches were performed using databases from Med line, Google Scholar, PubMed and Springer using keywords: anxiety, virtual reality, physiotherapy, rehabilitation. In order to be eligible for this study, the articles had to meet some of the following inclusion and exclusion criteria:

Inclusion criteria-

The articles had to inform the advantages and disadvantages of using VR in rehabilitation, description of VR application, adaptation processes of physiotherapist and patient and cost of applying VR. Furthermore, we only included scholarly publications and research that were published in English.

Exclusion criteria-

For the exclusion criteria following elements were used: papers that were not identified as journal articles (e.g., books, book reviews/chapter), gray literature (e.g., conference, magazines) because they are considered less relevant and do not undergo peer review process, which reduces the reliability of the study, studies that

did not have a clear abstract or uncertain conclusion, articles not written in English, and articles that did not correspond with the research

RESULT AND DISCUSSION

Different studies suggest that Virtual Reality Therapy can work as effective therapy for general population with anxiety disorders. In addition, as a higher tech intelligent treatment method, it is easier to promote in community rehabilitation and brings fun and enjoyment to patient's recovery. The present review focus on applications of VR technology on anxiety disorders management. Data from various studies insights into current medical application of VR System: Anxiety Disorders management. These studies have contributed to our better understanding of the effectiveness of VR in reducing these symptoms in different contexts and diseases. The findings of this systematic review are congruent with those of previous researches and reviews suggest that VR can be used to effectively manage symptoms.

FUTURE RESEARCH POINT

Future research should create comprehensive and flexible dialogs for VRET and investigate how they can improve the system's ability to be used even more. It is necessary to create more virtual environments that allow for verbal interaction, since this might enhance the effectiveness of VRET.

Future VR research should be conducted with bigger sample sizes in the setting of medical inpatients and evaluated over time to look at long-term impacts, as the review's findings demonstrated. This intervention has the potential to be successful for individuals with a wide range of diseases and ages.

Although most VR research are conducted in hospital settings, some health experts believe that VR should be promoted as a home-based therapy as well.

Another point of view is the sense of independence and self-improvement promoted by VR in the home environment, allowing users to begin the VR intervention without supervision and on need, allowing a sense of control over the symptoms and on need. The majority of studies looking at the effect of VRET on anxiety involved adults, therefore there is a definite need for research on the usefulness of virtual reality therapy in the elderly with anxiety.

CONCLUSION

In sum, Virtual Reality Therapy seem to be an applicable option for reducing the symptoms of anxiety through the social skills learning. VRT is a promising intervention with several potential applications in the inpatient medical setting. Studies to date demonstrate some effectiveness, but there is a need for larger, well-controlled studies to show clinical and cost-effectiveness.

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