



VIRTUAL REALITY

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Table of Contents

1. What is Virtual Reality?	2
1.1. Types of Virtual Reality Devices	2
1.2. Evidence-Based Virtual Reality Benefits.....	2
2. What is Dementia?.....	3
3. Management of Dementia with VR (Virtual Reality)	3
4. Methods of VR Therapy	4
5. Drawbacks of Virtual Reality	4
6. Conclusion.....	5
References.....	6

Virtual Reality in Management of Mental Illness and Dementia

1. What is Virtual Reality?

There are many interventions in the field of digital technology. Virtual reality is one of them. The virtual reality fabricates a new world that works with the senses of the individuals. It is a 3-D image technology that is made by computer systems. The virtual reality devices are fed with the human senses such as visual and hearing, besides these senses, other senses are also involved such as smell, touch, etc. In virtual reality, the individual feels a new world by operating their motor senses (Tarnanas et al. 2013).

1.1. Types of Virtual Reality Devices

There are numerous types of virtual reality devices, these are available in the form of video games, giving tasks, discs, glasses, etc. All these works on motion sensors or detectors. These virtual reality devices have a specific environment in which they operate (Manera et al. 2016). The technique at which it operates are of various types:

- Body tracking method
- By different VR-hardware
- Mirror therapy by using sensory outputs
- Wrap-around display screens
- Haptic devices
- Gaming devices

1.2. Evidence-Based Virtual Reality Benefits

There are many psychiatric illnesses is present in the medical world. The world is surrounded by depression, anxiety, etc. all these are must be dealt with-out medication, so the digital technology is the main way to deal with all these disorders there are many types of researches are done on this query (Wijma et al. 2018). Virtual reality plays a tremendous role in curing many disorders and there are many shreds of evidence are also present such as:

- Psychiatric disorders like dementia, eating disorders, post-traumatic distress syndrome

- Stroke rehabilitation
- Cerebral palsy
- Parkinson's disorder

2. What is Dementia?

Dementia is a psychiatric illness that deals with mental disorders of unknown cause or maybe age-related. The World Health Organization is estimated that about 47 million people are dealing with this disorder. And this number is increased to about 75 million in 2030. Cognitive functions are impaired in dementia and personality changes are also altered. These individuals are socially handicapped and are in a stressful situation. These socially neglected people are highly distracted from the reality of the world and need proper care and management. Because of the increasing burden of these people on the health care units, the caregiver numbers are relatively low, so proper health team and management are required for them (Zucchella et al. 2014).

3. Management of Dementia with VR (Virtual Reality)

Many studies were conducted at the community level to detect the effect of virtual reality on dementia patients. Different researchers at Stanford Health Care said that the use of virtual reality technology decreases mental health disorders. It also has the ability to change the psychomotor impulses and maintain the cognition of the dementia people (Garcia and Kartolo and Curtis, 2012). The 3-D images technique is the simplest one in which the images are displayed in different special orientations and dementia-related old patients when moving their heads or any other body part a specific movement is displayed on the screen. In this way, the real world of the patient is immersed in the digital world. Dementia-related individuals feel their body parts moving on the screen during the VR therapy. The controller system helps the individuals to feel as their body parts are moving. Any disorientation in the body parts of the individuals is capable to readjust themselves according to the device (Moyle et al. 2018).

The people at about 63-89 years of age are the main focus of the treatment by the VR technology. Many live experiments are done on these people and see the effect of these therapy for dementia and depressed patients, research showed that many individuals narrated that by using the VR devices their anxiety and depression level is reduced, and they feel relaxed by using this 3-D imaging technology (Perez and Lozano, 2018).

4. Methods of VR Therapy

This therapy is done in various ways such as

- Full Immersive techniques
- Half immersive techniques
- Non-immersive
- Passive techniques
- Active methods

In these technique-specific working principle is involved, for example, in body tacking method the VR device is handed over the patient and the device fabricate the world that is not reality-based and when moves its limbs or any body part it shows as the patient is in this fabricated world. And he/she feels relaxed (Jütten et al. 2018) and (Park et al. 2019).

On the other aspect, in immersive technique, the patient put the VR glasses on them and they just enjoyed the digital worlds on thereon, the making effect of immersive techniques id very potent and this conjoint the real world with the digital fabricated world (Freeman et al. 2017) and (Hodge et al. 2018). Immersive virtual reality therapy is based on the sensory information that a person's mind received from its surroundings. The wrap-around display screen is the most fabulous of the image created techniques (Mosadeghi et al. 2016).

5. Drawbacks of Virtual Reality

As virtual reality is very advanced in its working and high-quality images are generated by this device. But there are some demerits are also present that cannot be neglected and the users must aware of them such as,

- These are very costly and available at high rates
- Difficulty in the technological method that is a real and fake perception

Has many side effects such as;

- Vision problems
- Postural imbalance
- Disorientation

- Dry mouth
- Disorder between perception and vestibular system

Besides all these demerits the virtual reality is fabulous in controlling dementia-related anxiety and depression. In the present day, digital technology occupies all medical field and the psychiatric related illness other than dementia is also successfully managed through this digital device such as eating disorder, illusion, post-traumatic distress syndrome (PTDS), etc. (Sonntag, 2015).

6. Conclusion

In the modern world of technology, there is nothing impossible to treat any serious psychiatric disorder modern technology invent a fabulous intervention in the medical field particularly in depressed patients such as virtual reality. Virtual reality provides a different environment for dementia-related depressed patients. It creates an imaginary world that is all computer-generated. This digital world operates by using different senses of the patients, particularly motor senses (Sherman, Herrmann and Lanctôt, 2018). In dementia the old patients treated by virtual reality and evidence-based results of the cure are present. Virtual reality has both merits and demerits but in short, is the best choice for psychiatric disorders and dementia.

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