

## **INNOVATIVE APPROACHES IN PSYCHIATRIC TREATMENT**

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### **INTRODUCTION**

Mental healthcare has undergone a dramatic shift in the last couple of centuries. The last half-decade has shown some of the most exciting innovations in the field of mental healthcare. New treatments and techniques have drastically changed the mental healthcare field.

### **VIRTUAL REALITY EXPOSURE THERAPY (VRET)**

VR is a technology that allows the simulation of different real-life situations in a 3D computer-generated environment in which the user can interact with the environment as if he/she were in the real world.

In VRET, an individual is immersed in a virtual environment, either through the use of a head-mounted display device or entry into a computer-automated room where images are present all around. This environment can be programmed to help the person directly confront feared situations that may not be safe to encounter in real life.

It can help to modify behaviors, thoughts, and emotions which provoke anxiety or fear through virtual experiences. It is used in treating different mental disorders such as specific phobia, post-traumatic stress disorder and social anxiety . Children with ADHD can practice focusing in a VR classroom. People with autism can practice navigating stressful social situations like job interviews.

### **EYE MOVEMENT DESENSITIZATION REPROCESSING (EMDR)**

EMDR was introduced in 1987 as a treatment for post-traumatic stress disorder. It is a psychotherapy treatment that was designed to alleviate the distress associated with traumatic memories.

During EMDR therapy the client attends to emotionally disturbing material in brief sequential doses while simultaneously focusing on an external stimulus. Therapist directed lateral eye movements are the most commonly used external stimulus but a variety of other stimuli including hand-tapping and audio stimulation are often used.

EMDR therapy facilitates the accessing of the traumatic memory network, so that information processing is enhanced, with new associations forged between the traumatic memory and more adaptive memories or information. These new associations are thought to result in complete information processing, new learning, elimination of emotional distress, and development of cognitive insights.

EMDR therapy is used in treatment of PTSD, Affective disorders, chronic pain, Addiction and Obsessive-compulsive disorders

## **ARTIFICIAL INTELLIGENCE**

Shortages of psychiatrists and therapists worldwide may lead to a rise in AI solutions for mental health

AI algorithms can extract patterns from data, make predictions from these patterns, and continuously update the predictions with the input of new data. This means there is a wide range of potential uses for AI in psychiatry, possibly even including the diagnosis and treatment of people with mental disorders.

Computer-assisted therapy (CAT) could offer exciting prospects in this regard by delivering some aspects of psychotherapy or behavioral treatment. CAT typically consists of programs made up of videos and questionnaires that are delivered to the patient through a computerized platform to help him cope with his symptoms. For instance, Beating the Blues, a computerized-assisted therapy was proven effective in reducing symptoms of depression and anxiety.

CAT could also be delivered via the Internet, thus allowing a higher degree of interactivity between the patient and the program. This approach is referred to as e-therapy. Considering that

Internet is merged into our daily lives, e-therapies could be an effective way to provide support for individuals suffering from mental health disorders.

AI adoption is in its infancy in the mental health fields, but in the future, the AI could aid a clinician in diagnosing a patient, can work in conjunction with designated applications - analyze a host of data like past history, risk factors, side effects, existing treatment guidelines etc.,

### **TRANSCRANIAL MAGNETIC STIMULATION (TMS)**

Transcranial magnetic stimulation is a noninvasive procedure that uses magnetic fields to stimulate nerve cells in the brain to improve symptoms of depression, psychosis, anxiety, and other disorders

A typical TMS session lasts 30 to 60 minutes and does not require anesthesia. An electromagnetic coil is held against the forehead near an area of the brain that is thought to be involved in mood regulation.

Then, short electromagnetic pulses are administered through the coil. The magnetic pulses easily pass through the skull, and causes small electrical currents that stimulate nerve cells in the targeted brain region.

### **CONCLUSION**

The future will keep on changing the clinical processes especially with VR, synchronous and asynchronous video conferences and newer technologies that we are yet to utilize may help in reaching the deserved populations.

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