

LETTER TO EDITOR:
**USE OF AUGMENTED REALITY EXPOSURE THERAPY (ARET) TO TREAT PHOBIC
DISORDERS IN UNDERSERVED AREAS OF PAKISTAN**

ZOYA ATHAR, ANAM MUZAMMIL, MISHA MUDASSAR

CORRESPONDENCE: ZOYA ATHAR, zora.rana1010@gmail.com

To the Editor,

We want to highlight the potential use of Augmented Reality (in a mobile phone application) to treat phobic disorders in far-reaching areas of Pakistan. Phobic disorders are a type of anxiety disorder in which the patient feels an irrational, excessive and repetitive fear towards an object, person or situation. These include immense fear of height (Acrophobia), fear of spiders (Arachnophobia), fear of viewing blood (Hemophobia), fear of closed spaces (Claustrophobia), extreme fear of dogs (Cynophobia), etc. The typical signs and symptoms the patient experiences after exposure to the stress signal include immense anxiety, choking sensations, irregular breathing, increased heart rate and tightness in the chest¹.

These disorders tend to have a significantly negative effect on a person's quality of life. A review of studies conducted in Pakistan concluded that 34% of the Pakistani Population is a victim of anxiety disorders and depression². Studies have also stated that Phobic disorders are the most prevalent type of disorder among the entire array of anxiety disorders³. Moreover Phobic disorders are among the list of many mental health issues that are going unattended in the rural areas of Pakistan as these areas lack any psychiatric facilities or other mental health services⁴.

The treatment of phobias includes "Exposure Therapy" which is the application of principles of "Systematic desensitization". In this, the person is exposed to the stress signal (what the person fears) under a controlled environment and his /her negative thoughts are manipulated to the point that the person eventually starts to feel less fearful of the specific signal¹. This process besides the conventional methods can also be achieved by Augmented Reality which is a type of technology that produces interactive objects layered on top of the physical environment. The form of Exposure Therapy that uses Augmented Reality is known as "Augmented Reality Exposure Therapy (ARET)" and has been proven potent to treat phobic disorders. Furthermore, research has revealed that a "phone-based AR application" (when used regularly by users within the confines of their homes) proved to successfully reduce spider phobia, hence proving the efficacy of ARET (in a mobile phone app)⁵.

Moreover, studies have positively indicated and supported the use of Augmented Reality for the provision of remote medical care⁶. Hence by combining the principles of ARET and m-health we can eliminate the issue of the physical distance to receive psychiatric help for treatment of phobias. That is, we can formulate and eventually introduce mobile phone-based AR applications to the doctors located in rural areas of Pakistan who can eventually use it on the clinical or sub-clinical level to treat their patients suffering from phobic disorders.

Thus, the introduction of such phone-centered AR applications can facilitate the treatment of phobias among the underserved areas of Pakistan by eradicating the need to travel for treatment. This initiative will also positively promote the concepts of telemedicine and m-health in such areas.

Thank you
Regards

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