PTSD TREATMENT WITH VIRTUAL REALITY

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Introduction

The most widely used treatment for Post Traumatic Stress Disorder (PTSD) focuses cognitive-behavioral therapy and it is based on exposure. The treatment program that has more empirical studies, is the exposure program developed by Foa and Rothbaum (1998), the main component of this program is the imaginal exposure and in-vivo exposure the traumatic situation, which aims to produce the emotional processing of the event. At the first place the exhibition allows to activate the pathological structure of fear and, secondly, it alows to present specific information to correct the existing errors at the structure.

The imaginal exposure presents limitations such as: the cognitive avoidance that the patient can present, or the limitation to imagine, these problems can hinder access to the structure of fear, that is, access to emotions related to the trauma, which it is related to a worse efficacy (Jaycox, Foa and Morral, 1998).

Likewise, one of the limitations of the in-vivo exposure is that, despite the numerous studies that demonstrate its effectiveness, around 25% of patients reject it or abandon treatment, finding the technique too aversive, since although it is usually Be done gradually, end up facing what they fear so much.

As an alternative to the exposure technique, virtual reality (VR) systems have been developed, a new technology that consists of the generation of three-dimensional environments in which the patient not only has the sensation of being physically present, but can interact with them in real time. It is about being able to modify behaviours, thoughts, experiences, emotions ... through special virtual experiences. These experiences are designed and adapted to the needs of the person, with the aim of facilitating and enhancing a change.

VR can help patients who can not imagine, since the event is represented in the virtual world, and hinder cognitive avoidance. On the other hand, exposure to the traumatic event can be done gradually, first exposing the patient to aspects of the event that are less anxious and exposing oneself progressively to the harsher aspects of the event.

In Spain this treatment has been carried out within the framework of the European project "EMMA" and its usefulness in the treatment of PTSD has been demonstrated. The objective is to design meaningful virtual scenarios for the patient, paying more attention to the meaning of the trauma than to the event itself. The objective is to use elements that symbolize the trauma in order to access the pathological structure of fear and correct the information so that appropriate emotional processing occurs. The stage is an open room called "THE WORLD OF EMMA" in which emotions are reflected through different landscapes: a meadow, snowy landscapes, a beach and volcanoes. It is possible to modify the context in real time (sun, rain, snow, day-night ...). In addition, there is an important element called "The book of life" that gathers the session to session processing and different elements to symbolize aspects of the trauma (music, photos, drawings, videos...). It also allows incorporating elements provided by the patient. This scenario allows great flexibility because different types of traumas can be treated and the elements customized for each patient.

The literature points out that the main advantages of VR are: the degree of control of the therapist over the situations, exposing the patient to stimuli or places to which it would otherwise be difficult to access and its utility to maximize the benefits of live exposure. It is a good alternative for people who consider live exposure therapy as aversive.

Method

This work is a review based on the findings of the treatment of PTSD by means of VR.

In order to carry out this work, psycarticles, psycnet, psycinfo Scopus databases have been used.

The keywords used for the search were: "TEP", "psychological treatment", "in vivo exposure", "exhibition in imagination", "virtual reality", "clinical trial", "PTSD", "Jaycox, Foa and Morral", "imaginal exposure", "in-vivo exposure".

The search was made by delimiting the search years from 2000 to 2017.

In a first search 789 results appeared and from there those from years before the year 2000, chapters of books, proceedings, conferences or summaries were discarded. In this way there were 20 articles for review.

Most of the studies on the effectiveness of VR in the PTSD were carried out with military personnel sent to war zones, here highlight Rothbaum et al. (1999) who published the first case study applying VR to a Vietnam veteran with good results. These showed the reduction of some symptoms of PTSD. Another group has presented positive results of the treatment by VR of a case by PTSD produced by the attack to the twin towers of New York (Difede and Hoffman, 2002). Likewise, most of the studies published on this topic are from the Bottle group at the Universitat Jaume I in Castellón.

Results

Referencias	Sesiones	Duración sesiones	Periodicidad	Componentes tratamiento	Descripción ambiental RV
Baños et al.	9-12	90-120 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Trastorno emocional
Botella et. al	12	90 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Trastorno emocional
Routhbaum et. al.	6	90 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Guerra de Vietnam
López Soler et. al.	47	60 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Maltrato infantil
Difede et. al.	14	75 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Ataque terrorista 11-S
Freedman et. al.	10	90 minutos	Semanal	Psicoeducación Exposición Prevención recaídas	Ataque terrorista Jerusalén

Discussion and Conclusions

The literature review indicates that PTSD therapy through VR is effective and is as effective as traditional treatments. In addition, it presents a series of advantages with respect to exposure such as: reducing the abandonment of treatment and being less aversive than in-vivo exposure.

This work has limitations, due to the limited space of the poster I have not been able to capture all the information that I would have liked and which I consider important.

As a final conclusion, after all the documentation I have read on the subject, new technologies, specifically VR, I think is a very important tool and very useful when it comes to helping people to overcome a PTSD or any type of phobia since it is not necessary to make the real or imagined exhibition that many times, as I have already mentioned, are complicated to carry out.

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