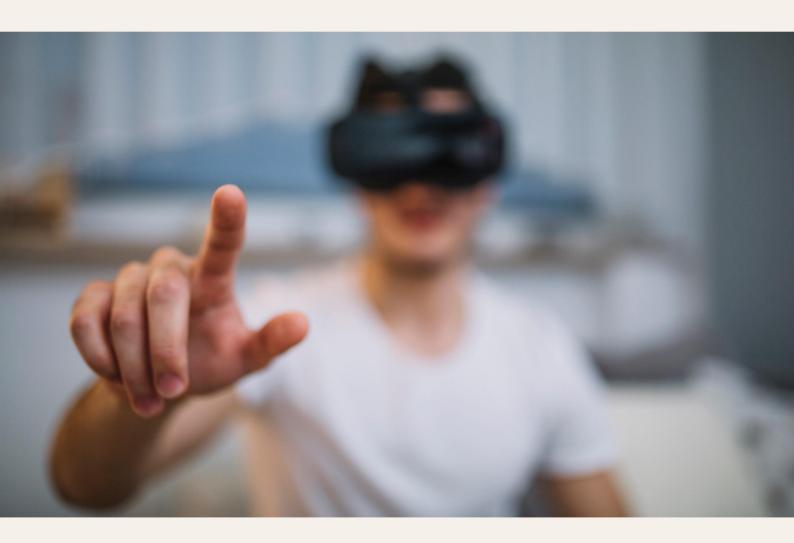# Amelia by XRHealth Clinical Case

ADHD and Hearing Impairments

Health care professional with expertise in VR:
Javier García

Patient

Javier, 7 years old

International Adoption, country of birth Russia.

Sister is adopted 1 year later.

Problems: **behavioural**, **hearing difficulties** (different surgical interventions) and in **school** context (interaction difficulties).

Reference diagnosis.

Combined ADHD: Attention and impulse control difficulties (cannot perform a task for a long time)

Emotional disorder (high paternal and maternal dependence), low level of autonomy (only goes out in the street accompanied by one of the parents), When he goes to the consultation with the father, Javier is calmer and the session goes much better.

Without medication.

Above all, problems in the area of relaxation.

Objectives

Objectives to be achieved (cognitive research)

Relaxation.

Impulse control.

Increase social skills.

Challenges

When the older sister is present nervousness levels increase (Javier wants to be the center of attention) and in the presence of the mother, he doesn't follow the rules set by the healthcare professional (Javier does not respect his mother as much as his father).

- The use of VR helps the patient to work better even if those elements are present.

Methodology

1. Use of goggles as a motivational factor to perform the exercises. Favourite and frequent environment "Under the sea".
2. Homework and school work. Cognitive and cognitive-behavioral therapies.
3. Therapeutic workshops on Saturday morning.

Development

The sessions were organized as follows:

1. <u>First 15 minutes of relaxation</u>. Jacobson's relaxation technique is taught first orally and then written, there is no training and the VR guide is used when it has to be used.
2. Once relaxed, move on to breathing.
3. <u>Work for 20 - 25 minutes</u> when the state of nervousness has been reduced.
4. <u>Last 15 minutes</u> Finish with a game or breathing exercises so he leaves as relaxed as possible.

Patient Development

<u>Before using Amelia by XRHealth:</u> Great difficulties are found in reaching states of relaxation due to the lack of impulse control, which makes it difficult to extrapolate relaxation exercises in familiar settings.

<u>Using Amelia by XRHealth:</u> An increase in the level of concentration and willingness to work is observed. This is reflected by increasing the time invested in the development of therapeutic activities. In the same way, it's possible to observe a more significant improvement within family context than in school environment.

The response to corrections of maladaptive behaviours of Javier have significantly increased in the workshops.

"With an attention call he reconnects with the activity."

Results

"I lend him the goggles and he could sit for 10 minutes." (without the goggles that was impossible).

In this case, the use of VR has been key to assisting the patient with the work of the sessions.. This has been a motivational element especially for the relaxation and breathing techniques (There's not an equally good response with mindfulness, there are many stimuli).

The use of the same environment is not only accepted by patients but is demanded by them, this reduces the effect of fatigue when performing activities and the feeling of boredom.

Working with External Variables.

➢ Work is done with the mother to incorporate the techniques of therapy and avoid frustration.
➢ Work is done with the sister to improve the relationship between them (patient-sister).

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