

Amelia by XRHealth Clinical Case

Fear of tests

High-school students



Health care professional with expertise in VR:
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Patient

Carmen. Reason of consult

Mentions an elevated state of nervousness when she has to make a test, often ends up crying. This situation began in high school and has been increasing.

- She admits that she does not have good study habits, and that the fear and nervousness cause her not to be able to give answers to aspects she knows.
- She believes that by eliminating her fear of exams, her grades will change/improve.

Physical symptoms: Tremor of hands and knot in stomach

Behavioral symptoms: Crying and blockage.

Cognitive symptoms: Blank mind, accompanied by expressions and thoughts such as: it is very difficult, I will not overcome it...

Evaluation

First session.

- The working methodology is explained.
- Habits, study techniques and levels of anxiety are evaluated. A lack of systematization is observed although there is organization.

"Study based on immediate needs" Healthcare professional

- Homework is sent; study schedule, review summaries, and thought record.

It's observed how her study methods are mainly memory based. When increasing the study material it makes it difficult for her to acquire knowledge which creates insecurity and anxiety.



Objectives

Objectives to be achieved

Organization and study techniques.

Learn about the mechanisms of anxiety (Psychoeducation).

Learn breathing and relaxation techniques.

Make a confrontation about the specific situation of the exam.

Methodology

Coping plan with self-instructions in situations of maximum anxiety

- Diaphragmatic Breathing Technique
- Homework (review of activities from the previous session)
 - Session 2: Shorter outlines, practice breathing and register respiration before, during and after the exam.
 - Session 3: Apply the coping plan during exams.
 - Session 4: Continue with the application of self-instruction during exams.



Diaphragmatic breathing in a meadow

This virtual meadow environment aids in the training of patients in diaphragmatic breathing with the support of an auditory and visual guide.

 Start session

 Open guide



Virtual Environment

Development

The sessions took place as follows:

- **First session:** Based on the evaluation.
- **Second session.**
 - Knowledge of the study techniques but their use is incorrect, she makes very long summaries that she tries to memorize.
 - Avoids any unpleasant sensation → Psychoeducation about anxiety
 - Introduction of VR for diaphragmatic breathing with the owl.
- **Third session.**
 - Coping plan during exams with restrictions.
 - Self-instructions in situations of maximum anxiety.
 - Diaphragmatic breathing in the environment of "Beach ball".
- **Fourth session** (Coincides with the use of VR and exam period).
 - Mentions difficulties.
 - VR utilization to observe patient actions during stressful situation.
 - Very high levels of nervousness are observed so the patient is guided in the use of self-instructions.
- **Fifth session (after all exams)**
 - Improvement in exams situations. Only cries in one of the exams.
 - Informs to the healthcare professional that she has failed one of the subjects with a final grade of 4. Cognitive reinforcement is applied so that the patient minimizes the importance of the grade obtained.

Results

➤ In the patient

The patient reports that throughout the sessions she has seen an improvement in her states of anxiety, at the end of the course she has only cried in one of the exams.

“Once the blockage has been overcome, the contents studied appear.”

She ends up being able to understand that even if she had unpleasant sensations, she should focus on the content of the exam and not on trying to get rid of that unpleasant sensation.

With the exposure helped by VR, the patient was able to observe the gaps in her study habits and techniques used. She could observe what actions lead to these anxious situations and how to solve them.

Thanks to the use of VR during the sessions, not only can the patient observe how she is acting in these situations, but the healthcare professional can also observe how the patient is acting, where is she failing and how she is coping. In addition, the healthcare professional can observe the cognitive changes that had occurred and are occurring throughout the therapy by comparing their response during exposure.





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