# Amelia by XRHealth Clinical Case

### **Fear of Needles**



Health care professional with expertise in VR: Patricia Olivé

]

## **Patient**

### Woman, 28 years old

Blood and needle phobia. She has not had a blood test in more than 10 years, doesn't visit her GP because she's scared he will send her for a blood test and she hasn't been to the gynecologist.

### **Personality**:

- Obsessive
- Nervous
- > Autoexigente
- Self-demanding
- > Perfectionist
- > Hypersensible
- Controller

### Other fears:

- > Flying
- > Attractions
- > Driving

### Reference diagnosis

- > Therapeutic process previously:
  - o Treatment at 16 years old→ Bullying and depression
  - o Treatment 3 years ago → Stress and anxiety binges.
- Overweight and high cholesterol levels.
- Diagnosed with Obsessive Compulsive Disorder (OCD)
- > Anxious symptomatology:
  - o Dizziness
  - Tachycardia
  - Sweating

- Fainting
- Choking sensation
- Alert

# **Objectives**

### Objectives to be achieved.

Reduce the emotional discomfort, removing the specific phobias of the patient by using VR.

Provide information to the patient about cognitive functioning based on a cognitive-behavioural approach and about anxiety and phobias.

### Methodology

A total of **8 sessions** lasting an hour were carried out over **8 weeks**.

First Sessions → Focused on PSYCHOEDUCATION

- Focused on a hierarchy of conflicts, in order to work them out.

Subsequent sessions → Focused on the use of VR

Focused on progressive exposures.



# Development

### **Exploration interview**

The first session was based on an exploration about syntomathology of the patient. Exploring her fears and sensations certain situations produce in her.

### **Psychoeducation**

The patient was introduced to the functioning of the human mind from a cognitive-behavioural approach, she was also provided with information about anxiety and phobias, explaining to her the tendency of evitation she adopts.

Likewise a hierarchy of items that produce discomfort in the patient was created. Beginning with the least frightening items and ending with the most.

Evaluations of irrational beliefs.

### **Progressive exposure**

During the third session the exposures started, in a progressive way. The first items of the hierarchy were exposed. → Without VR

There was a needle over the table, in order to expose the patient to thing that scares her  $\rightarrow$  familiarize her with the object.

She was introduce to the diaphragmatic respiration and the Jacobson relaxation technique.

**Homework:** Watch blood analysis videos at home.

# Development

### **Session 1**

During the third session, when the relaxation techniques were learned the VR was introduced.

**Jacobson**→ VR. As an introduction and practice of what was learned.

**Medium low exposure**: Waiting room **as companion** → SUD: 8. After a second repetition, her Subjective units of distress decrease to a 6, but the sensation of disgust remains.

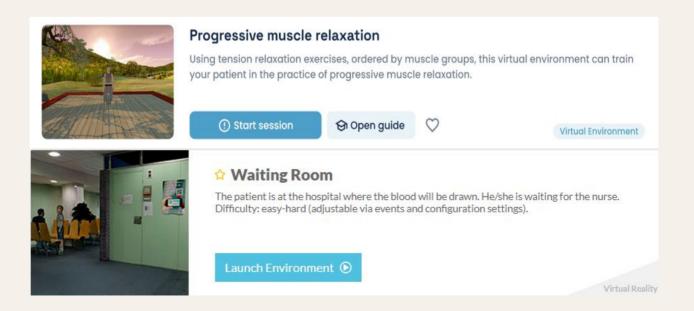
### **Session 2**

- > Second exposure with VR: As a patient → Scene: Waiting room
  - o Injection
  - Extraction

Angush

SUD: 8, after a second try → 6

At first she wasn't able to stretch her arm. After the second exposure, she was able to stretch her arm and play a bit with the needle.



# Development

### **Session 3**

- ➤ Third VR exposure session: As a patient → Scene: Normal Analysis.
  - She states a feeling of weakness
  - o SUD: 5

### Session 4

- ➤ VR Exposure: As a patient → Scene: Blood analysis + Elastic band → Create a stronger reality sensation
  - SUD: 4

### **Session 5**

> **VR exposure + Physical effect** → Play with immersion

### **Session 6**

Easy extraction

#### Sessions 7 and 8

- > **Difficult extraction** → 2 tubes of blood
  - She didn't avoid looking, stated disgust but not dizziness.



#### ☆ Real Extraction

Video recorded from a first person point of view of a real blood extraction. This can be the last step before in vivo exposure for fear of needles. Difficulty: Hard

Launch Environment

Video 2D

## Results

### At the end of therapy it was possible to observe:

When therapy ended, the patient showed a great improvement in her fears and was able to overcome different obstacles:

- Accompanied Blood analysis
  - o Nervous, without anxious symptomatology.
- > In less than a year she was able to have 2 blood analysis.
  - one of them had difficulties→ The nurse couldn't find her vein, she had to receive 2 punctures.
  - No Negative symptomatology → She tried to calm the nurse.
- > She went to the gynecologist
- > Visits her GP
- > Her self esteem increased and she exposed herself to situations that she previously consider impossible to face.

