

Amelia by XRHealth Clinical Case

Phase Insomnia and Benzodiazepine
dependence



Patient

Encarna, a 52-year-old woman.

Referred from her family doctor for a relapse into her benzodiazepine abuse.

Since she was a child, Encarna remembers problems of insomnia and difficulty in getting rid of her daily worries and relaxing **"it's as if I activate myself when I go to bed, thousands of thoughts and unresolved obligations appear, daily problems that absorb me and end up keeping me awake"**.

Her insomnia is usually alleviated by the effects of **benzodiazepines** prescribed by her former primary care physician. However, for the last 5 months she has been seeing a doctor who has diagnosed her as being **dependent** on this family of drugs.

Her husband Fernando says he is very worried about her **"I have the feeling that her life is a disaster, in the mornings she sleeps because she goes to bed very late, referring to insomnia she stays up until the early hours of the morning in the living room watching a movie"**. Since she goes to bed late, in the afternoons she stays asleep, which makes her timetable completely unregulated.

This at the same time, generates a lot of the couple's arguments.

Diagnosis

Diagnosis:

Sleep Phase Disorder: This is a circadian rhythm disorder that consists of a stable delay in the usual nighttime sleep period, characterized by insomnia at bedtime and difficulty in waking up in the morning, resulting in daytime sleepiness.

Diagnostic criteria:

DSM-V is a subtype of circadian sleep-wake rhythm disorder

According to ICSD

1. The patient presents a complaint of inability to fall asleep at the desired time, inability to wake up at the set time or excessive daytime sleepiness.
2. There is a phase delay of the major sleep episode in relation to the desired time period.
3. Symptoms have been present for at least a month.
4. When a strict schedule is not required, patient shows the following signs (vacation):
 - a. Have a regular period of sleep of normal quality and quantity
 - b. Spontaneous awakening
 - c. Maintain a stable 24-hour sleep-wake rhythm with a phase-delay pattern
5. Daily sleep-wake records made for at least two weeks show a delay in the usual sleep period
6. One of the following laboratory methods demonstrates a delay in the usual sleep schedule and period:
 - a. 24-hour polysomnographic monitoring (or by two consecutive nights of polysomnography followed by a multiple latency test)
 - b. Continuous temperature monitoring shows that the temperature nadir is delayed and appears in the second half of the usual sleep episode.
7. The symptoms do not meet the criteria for any other sleep disorder that causes an inability to initiate sleep or excessive sleepiness.

Evaluation

Tools

Clinical history

1. Sleep history: we need to know your sleep schedule 24 hours a day, we can use a "sleep-wake diary"
2. Physical Examination: We need to rule out that your symptoms have no other cause than insomnia.

Questionnaires

Functional analysis:

1. Background: Intrusive and obsessive thoughts
2. Maintainers: Phase delay and alteration of the circadian cycles that generate an infinite loop in which at night it is active and during the day it is sleepy.
3. Problem behaviour: Benzodiazepine consumption, altered functionality in daily life
4. Consequences: General malaise, inability to cope with the demands of everyday life, problems with the couple.

General Objectives:

1. Align the circadian clock with the light-dark cycle
2. Correct application of sleep hygiene rules
3. Identification and treatment of concomitant medical or psychiatric disorders

Specific Objectives:

The difficulty to get rid of their day-to-day worries and relax "is, as if it activates me when I go to bed, thousands of thoughts and unresolved obligations appear, the day-to-day problems absorb me and end up keeping me awake".

Treatment

We are going to focus on the treatment of the history, that is, the **distressing and intrusive thoughts** that appear at bedtime and prevent sleep from being generated. At the same time, the rest of the objectives must be worked on, such as correct **sleep hygiene**, for example, through **psychoeducation**; aligning the circadian cycle, for example, by following a routine and self-registration. In addition to giving specific guidelines for gradually lowering the dose of Benzodiazepines, as prescribed by and in coordination with your family doctor.

With respect to unwanted cognition, the idea is to use VR through different strategies:

Detection of intrusive thoughts (Fear of the dark environment)

➤ Mindfulness

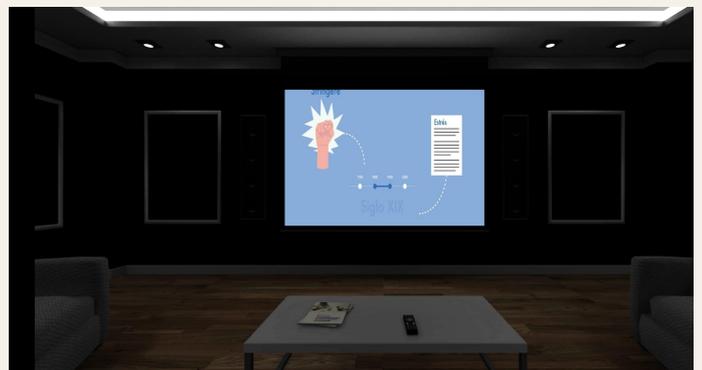
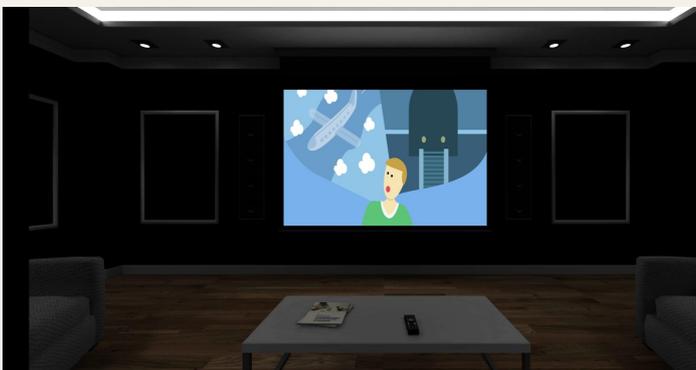
In parallel, we work with **progressive muscle relaxation and abdominal breathing**, which has empirical evidence of its effectiveness in the treatment of insomnia (Miró cols., 2003).

Development

Psychoeducation

Psychoeducation was aimed at sleep hygiene, that the patient knows and understands the different concepts that encompass sleep, answering and explaining a series of questions, such as; Why is it necessary to sleep? What types of insomnia are there? What are the factors that influence insomnia? ... In addition to recommendations on healthy behavioral habits to help improve sleep.

The psychoeducational videos in VR that could be used to support and complement the above mentioned were, in relation to anxiety: Definition of emotions, How we feel emotions, How emotional disorders begin... and those of stress: What is stress, How stress affects us, Consequences of stress.



Development

Thought detection:

This technique can serve us first to make an assessment of the character of the thoughts that arise at the time of reconciliation of sleep, which we can simulate through the environment of **fear of the dark**, with the event " Bedroom " and " Lying down " (we will be lying in bed at night).

Within the environment we will use an **ascending arrow or the Socratic model** to generate the thought that happens to the situation.

Once we have detected what these thoughts are, we will carry out a training in thought detection, the application of which consists of the following chained steps:

- Detection of the recurrent and intrusive mental event
- Verbalization of the thought by the patient while the psychologist stops him, since after the emission of the second word he emits a signal like saying strongly: "stop, stop", he emits a noise like a blow on the table, a slap, a whistle, a pull on the rubber on his wrist, etc.
- Verbalization of the patient and stop by the patient in a high position emitting the signal in an explicit way or as an auto-order.
- Verbalization of the thought and stopping by the patient in a disguised way.
- **Positive thinking:** The last optional alternative is to resort to a thought or pleasant scene, such as a beach, so that the patient manages to escape completely. (A training in relaxation or visualization in the environment of the beach could be made previously to be able to activate this state of more automatic form)

*The function of the signal would be to interrupt thought so as not to focus attention on it. With respect to this attentional objective we can also employ mindfulness techniques.

Development

Relaxation techniques

Diaphragmatic Breathing: Parallel to the above, abdominal breathing will be a good tool to promote physiological parasympathetic deactivation, so the patient is instructed to practice it at home using the Amelia by XRHealth for Smartphone application, having previously done it in the clinic. In addition, guidelines are given as to which days and at what times she will practice, agreed upon with Encarna; self-registration is used and in this way we establish this link or therapeutic commitment.

Progressive muscle relaxation (Jacobson): Progressive muscle relaxation will provide the patient with a very useful tool to control their thoughts at bedtime, thanks to relaxation and distraction, since their attention is focused on the difference between tension and muscle relaxation. To do this, as with breathing, it is first practiced in consultation, several times until you are able to master the technique. In order to master it correctly, The use of the Jacobson VR environment was very useful.

Mindfulness

As we have said, with the aim of displacing the attention from intrusive thoughts, we will carry out a mindfulness training consisting of contemplating the body, the experiences, the sensations, the body movements without an attitude full of connotations.

A main difference between Jacobson and mindfulness, is that the former aims to block the thought, but through mindfulness the thought is accepted without trying to modify it, which usually produces a collateral deactivation.

To achieve this, different trainings are conducted with the VR environments for mindfulness.

Beginning with the guided session with the "Spring-Summer" and "Body Scan" environments, and using "Conscious Walking" in a self-directed way with the Amelia by XRHealth for Smartphone application, giving precise guidelines and instructions on when to visualize the environment and do the exercise.



amelia
by XRHealth