

# COGNITIVE STIMULATION: DOES VIRTUAL REALITY ENHANCE PATIENTS' ENGAGEMENT DURING SESSION?

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## 1. INTRODUCTION

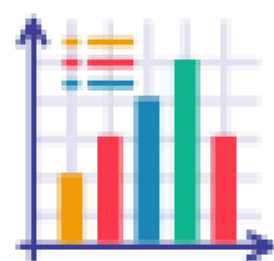
Virtual Reality (VR) has emerged as a promising tool for cognitive stimulation in patients with cognitive impairment, including those with Mild Cognitive Impairment (MCI) and dementia; the same applies to traditional cognitive stimulation platforms<sup>(1)</sup>. However, the literature reveals certain issues regarding the acceptance of VR in terms of tolerability among patients, as some may experience dizziness, visual disturbances, nausea or disorientation <sup>(2)(3)</sup>. Our pilot study wants to shed light on the aspects of tolerability and involvement in patients undergoing VR-based rehabilitation.

## 3. METHODS



A randomized clinical trial was conducted involving patients diagnosed with MCI or mild dementia, randomly assigned to two groups: one group participated in VR-based cognitive stimulation sessions (45 minutes, once a week for 8 weeks), while the other group used a traditional cognitive stimulation platform. Cognitive assessments were conducted using standardized scales, and quality of life was measured through validated questionnaires.

## 4. RESULTS



- VR Patients → increased concentration, motivation and engagement, with higher scores on quality of life questionnaires.
- Non-VR Patients → more modest and less significant improvements.

Specifically, all patients who underwent cognitive stimulation through VR expressed satisfaction and motivation and they successfully accepted the intervention; moreover, none of them exhibited any side effects.



## 5. CONCLUSIONS



Virtual Reality (VR) enhances patient engagement within the environment by providing clinicians with unexplored rehabilitative opportunities. The interactive aspect and the mindset reminiscent of video games elevate motivation and facilitate the recruitment of cognitive resources. It also can elicit bodily responses, and this results in a high degree of ecological validity that bring therapeutic and rehabilitative sessions closer to those of the real world.

## 2. OBJECTIVES



Comparison between a VR-based cognitive stimulation intervention and a traditional cognitive stimulation platform, in terms of:

1.

- (Emotional) involvement

2.

- Tolerability

3.

- Acceptance



Through VR It is possible to create sessions in which patients are fully immersed in a nearly ecological environment, which leads to increased enthusiasm and participation.

Certainly further research must be conducted to determine if the use of VR is more appropriate for specific patient populations compared to others. In other words, we have to consider the individual variability in response to VR training and create standardized guidelines for its application in clinical practice.

### Riferimenti

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