Virtual reality in severe alcohol-related cognitive impairment: a feasibility study

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Introduction
Virtual Reality (VR) is increasingly used in the healthcare sector; VR programs have been developed for cognitive remediation in neurological and psychiatric disorders as schizophrenia and for exposure therapy (anxiety disorder and addiction). We have not found previous studies in severe alcohol-related cognitive impairment (ARCI).

Objectives: This study aims to investigate the VR tolerance of subjects with severe ARCI to transpose the current applications to this population.

Method
1. Recruitment
20 patients
Severe ARCI
Abstinent for ≥1 month

2. Initial assessment
Severity of addiction
MoCA, Ataxia (Barni)
HADS
STAI-Y-A
EVA relaxation (hetero- & self-assessment)
Immersive Tendencies Questionnaire

3. Intervention
20-minute VR intervention, in a seated position, with caregiver monitoring

4. Post-intervention
Simulator Sickness Questionnaire
STAI-Y A
EVA relaxation (hetero- & self-assessment),
EVA of satisfaction

Results
Male 60%; Mean age 59.5 (SD 8.3)
High school or less 75%
Mean MoCA 18.9 (SD 5.5)

Good tolerance: median of 3/48 on the Simulator Sickness Questionnaire

Significant decrease in anxiety at STAI-Y-A (p<0.001)

Patients are satisfied with the session: average score of 9/10

Conclusion
VR therapy shows good tolerance, significant decreased anxiety and high satisfaction rate in patients with severe ARCI. Our study demonstrated that this promising technique can be used safely in this population to offer specific therapies such as VR cognitive remediation, home return assistance and relapse prevention programs, as well as to promote access to culture.

Keywords: Alcohol, Cognitive impairment, Cognitive remediation therapy, Virtual Reality.

References