

Acuña-Vargas S^{1,3}, Dereux A^{2,5}, Clergue-Duval V^{2,6}, Azuar J^{2,5}, Celli P², Mulhauser H^{2,3}, Thibaut F^{1,7}, Vorspan F^{2,4,6}, Questel F^{2,5}

¹ CSAPA Cassini, CHU Cochin, AP-HP.Centre ; ² Département de Psychiatrie et Médecine Addictologique, Hôpital Fernand Widal, AP-HP.Nord; ³ RESALCOG, Paris ; ⁴ INSERM U1144, Paris ; ⁵ FHU NOR-SUD, Paris ; ⁶ Université Paris-Diderot, Paris ; ⁷ Inserm U1266, Institut Psychiatrie et Neurosciences de Paris

Contact: sonia.acuna-vargas@aphp.fr

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 (Bearn)
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



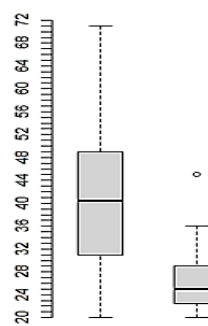
Results

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

2

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

STAI-Y-A



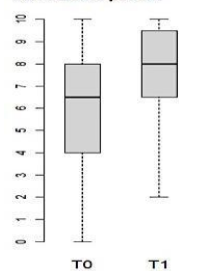
1

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

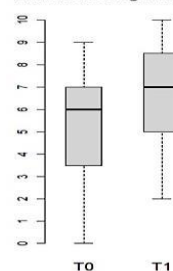
3

Significant increase in the feeling of relaxation in EVA self-assessment ($p = 0.049$) and hetero-assessment ($p = 0.039$)

EVA détente patient



EVA détente soignant



4

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

- Freeman D et al. (2017). VR in the assessment, understanding, and treatment of mental health disorders. *Psychol Med.* 47(14):2393-2400.
Bouchard S et al. (2009). Side effects of immersions in VR for people suffering from anxiety disorders. *J Cyber Ther Rehabil.* 2(2), 127-137.