ReVBED: Pre-therapeutic validation of a food craving induction program in virtual reality.

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Introduction and objectives:

Food craving is a central element in the therapy of Bulimia Nervosa (BN) and Binge Eating Disorders (BED). Virtual Reality (VR) applications, offering personalized and ecological experiences, have shown promise in craving induction therapy in these disorders. However, previous studies focused on visual stimuli and technically didn't used an immersive environment with a head-mounted display (HDMs). Therefore, we developed ReVBED, a semi-directed VR exposure scenario, utilizing multimodal stimuli.
Our primary objective was to evaluate the efficacy of ReVBED in inducing food craving in BN and BED patients compared to controls, secondary to explore associations between response and psychological factors known to influence craving, and finally to assess the acceptability and tolerability of ReVBED.

Material and Method:

We included 30 BN or BED patients and 30 control subjects. Participants completed sociodemographic, clinical data and psychomotric questionnaires. They experimented ReVBED with a full immersive HDMs. Virtual environment was designed as an apartment with four showrooms connected by a central hall, including environmental and emotional stimuli. Food craving and anxiety were rated using numerical scales before and after each room. Two questionnaires were given after the VR experiment to assess tolerance and acceptability.

Results: We found a significant interaction between group (patient vs control) x time (first / last evaluation) for craving ($F = 8.65$, $p<0.001$, $\eta_{p2} =0.14$) and anxiety scores. Correlations revealed associations between craving scores and some psychometric questionnaire factors for the overall panel. Despite VR sickness symptoms were more pronounced in patients, ReVBED was considered as acceptable based on the qualitative assessment questionnaires.

Conclusion: ReVBED demonstrated its efficacy to induce significant craving in BN and BED patients. Results highlight the relationship between craving, anxiety, and psychological factors. VR-based interventions hold promise as adjunctive therapies for EDs, offering immersive and personalized experiences for craving induction and therapeutic applications.

Nous n’avons aucuns liens d’intérêts à déclarer.