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THE EFFECT OF VIRTUAL REALITY (VR) USED AS A DISTRACTION METHOD IN PAIN RESPONSE

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Introduction: Cognitive strategies have received considerable attention in the field of pain management, together with more traditional approaches based on physical interventions and behavior modification. Distraction is a technique that lately has been often studied.

Distraction is based on an individual's limited attention capacity; it diminishes attention aimed to a painful stimulus with a subsequent pain reduction (Wismeijer & Vingerhoets, 2005).

Objective: To study the effect of VR as a distraction technique in an experimental pain task.

Method: 37 healthy participants were induced pain through two consecutive immersions using the cold-pressor test. All participants went through two experimental conditions: VR and black screen. The order of conditions was counterbalanced and a design of repetitive measures was used.

A virtual environment "Surreal World" was developed based on distraction techniques designed to surprise participants. The effect of VR as a distraction technique was evaluated using objective measures of pain (threshold, tolerance, pain intensity and time estimation) and other cognitive measures (self-efficacy and catastrophic thinking *in vivo*).

Results: VR significantly decreased tolerance and pain intensity, influenced participants to underestimate the length of immersion. A higher self-efficacy in VR and a lower rumination and helplessness were registered in the pain experience. Thus, VR may help improve the efficacy of cognitive strategies.

Perspectives: The study shows the relevance of VR as an adjunctive method in the treatment of acute pain and allows studying its efficacy in patients with chronic pain.