

Virtual reality premedication in dental procedures

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The term “virtual” originates from Latin *virtus* “potency” which gained through ages the meaning from “capable of producing a certain effect, though not actually or in fact” to computer sense of “not physically existing but made appear by software”. The term reality derived from Latin *res* “matter” means “actually existing, having physical existence”. Thus, virtual reality is a simulated experience that can be similar to or completely different from the real world. The term “premedication”, that means preliminary medication, originates from Latin *prae* “before” or *limen* “threshold/limit” and *medication* “heal/cure”, yet its definition is not as simple as just those two words.

Traditionally, premedication used pharmaceutical drug with a sedative, analgesic, as well as antibiotic, antiemetic or antihistamine before treatment/surgery. It is commonly associated with local or general anesthesia. Non-drug premedication, supporting the classic one, is including a variety of distraction methodologies, from calming to focusing multimodal stimulations, visual, auditory, tactile or olfactory ones.

There are two major perspectives to which the term virtual reality premedication¹ is applied: the virtual reality perspective that focuses on synthetic technology software, head-mounted display or headphones with noise reduction and immersive movies, and the premedication perspective that focuses more specifically on reduction of anxiety or pain, promotion of amnesia, reduction of secretion, enhancing hypnotic effects.

My experience of using distraction dates back to 1992, when during dental procedures I played music to my patients through Walkman headphones. For two years I have been using intraoperatively an advanced tool, which is immersive virtual reality in head mounted display. The effectiveness of this kind of non-drug premedication method prompted to write this open letter to my professional community.

In recent years²⁻⁵, it was emphasized the neuroscience role with its progress knowledge regarding the connectivity of brain and behavior, pain modulation, or interplay between biology and psychology, in virtual reality development as a viable complementary treatment approach. Praise is due to authors engaged in virtual reality medical application to improve the comfort of patients during dental procedures, for shearing their ideas and experiences; ideas that give us plenty of “food for thought” to learn from the nature power of brain and encouraging us to practicing or research.

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Conflicts of interest

The author declares no conflicts of interest.

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