

Can Neurofeedback Affect Children's Anxiety in Dentistry?

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One of the most difficult dental challenges that most families and the dental community, especially pediatric dentists, are facing and dealing with is the elimination of pediatric anxiety from dental treatments. Dental anxiety is a major problem in controlling patients, especially in children. This type of anxiety can be associated with the patient as early as childhood and may also continue until adulthood which can interfere with the dental procedures.

If fear of dentistry is not resolved, it leads to the child's failure to attend for periodic dental examinations, consequently, his simple dental problems will become advanced that cannot be solved by simple treatments and will require advanced treatment. In this regard, psychological interventions can play an important role in reducing children's fear and anxiety. One of these treatments is the Neurofeedback method.

Neurofeedback has been used for anxiety treatment since the early 1970s, with early work planned by Kamiya and Klitner and was accompanied by alpha training. High-voltage alpha waves provide relaxation. Neurofeedback is a precondition for the electrical function of the brain and causes one's performance to reach optimal levels. The neurofeedback process involves the training or self-regulation of brain activity. The brain controls the blood supply through the vasodilatations and vasoconstrictions of the blood vessels, and the blood flow to the brain is directed to specific areas that are more self-regulating. The aim of neurofeedback is to normalize abnormal neural frequencies by increasing awareness of normal EEG patterns.

Neurofeedback with EEG recording provides brain function as computer information and provides us with physiological information that is transmitted through brain waves. The output obtained by the computer is based on the theory of factor conditioning and positive and negative reinforcement. The electrical impulses are prepared by Neurotherapy and its amplitude is obtained in individual filtered frequency bands. As a result, this information is presented to audiovisual sources and computer helps the person to modulate their brain-waves in the bandwidth.

Researchers believe that neurofeedback is a technique that uses feedback from the brain's electrical activity during factor conditioning and to modify disturbed brain wave patterns. The goal of neurofeedback is to actually treat problems in the management of symptoms of medical disorders. Comprehensive exercises such as Neurotherapy correct the real causes of the disorders.

Neurofeedback can be used to treat aggression, anger, depression, anxiety, and mood disorders. Anxiety in children may extend to disabling dimensions and discourage her and her family from any diagnostic measures of dentistry; ultimately leading to the avoidance of dental care by the child and worsening of her health conditions.

Although there is no evolved treatment for this disorder, a variety of methods including drug therapy, psychotherapy, family therapy, group therapy, cognitive behavioral therapy (Neurofeedback) and meditation and relaxation practices (yoga) can be applied in the treatment of this disorder.

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