

Laser in paediatric dentistry: patient acceptance of hard and soft tissue therapy

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ABSTRACT. ***Aim** This study aimed to evaluate the laser therapy efficacy in paediatric dentistry, considering the subjective tolerance and acceptance of therapy in children needing both dental and soft tissue treatments. **Methods** A group of 50 patients from 6 to 12 years of age, needing both hard and soft tissue therapy was selected and treated, without anesthesia, with an Er,Cr:YSGG laser 2780 nm and an Er:YAG laser 2940 nm for a total of 100 treatments performed; before and after the treatment the patients experience was tested with Wong-Baker modified facial image scale. **Results** The study showed a good percentage of acceptance and tolerance of both laser treatments: a success rate of 90% for hard tissues and 63% for soft tissues was obtained; for the total 100 treatments the acceptance was of 75%. **Conclusion** The Erbium lasers are very effective in paediatric dentistry and are good treatment options.*

KEYWORDS: Paediatric dentistry; Laser therapy; Threshold of pain; Threshold of suffering.

Introduction

Many people report fear of pain as their chief reason for not seeking dental care (Smith et al,1993), so any new technology that decreases dental pain is of great interest to both dentists and patients.

Laser therapy in paediatric dentistry is a therapy of choice for its known advantages (Table 1), especially for the safety of its use and for its gentle approach with patients. But is the laser sufficient to obtain no-pain dentistry? The answer comes from the knowledge about the nature of pain and the connection between its neurological and psychological components.

The nature of pain. In dentistry, the absence or the perception of pain is the result of a mixture of subjective and objective factors; both are variable and make pain a personal experience that no one has in common.

Among the objective factors, we must consider the type and the severity of the lesion (for example a simple enamel decay or a deep cavity with pulp exposure), the dentist's knowledge and ability, the technique and instruments used.

Among the subjective factors we must consider the

threshold of pain, the limit of algic perception which is almost constant in people, and the threshold of suffering that is the individual tolerance of pain (Molina and Magnano, 2005).

The threshold of suffering depends on individual factors, such as the patient's memory of pain (cognitive component), on the emotional status of the patient (emotional component) and on the social

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Operative advantages	Safety	No rotary instruments used
	Comfort	No vibration-no contact
	Painless	Reduction of need for local anaesthesia
Clinical advantages	Minimal invasive cavity preparation	
	Bactericidal effect	
	Haemostatic effect	
	Direct and indirect pulp capping indications	
	Good soft tissue healing	
	Improvement of patient approach	

TABLE 1 - The advantages of laser therapy in paediatric dentistry.

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