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**25 YEARS OF RESEARCH TO USE LASER IN PEDIATRIC DENTISTRY**

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**ABSTRACT**

The purpose of our study was to classify, compare and discuss the applications of lasers in dentistry to propose future basic and clinical research projects in pediatric dentistry.

A search was made between the years 1965 and 1990 mainly using both Index Medicus and Index of Dental Literature. Those papers with not well method and those where the conclusions did not come directly from the analysis of the results were eliminated.

237 selected papers were classified, 25.7% referred to the use of lasers in oral and maxillofacial surgery (painless excision, hemostasis and coagulation with CO<sub>2</sub>, ND-YAG and Ar laser). 19.4% referred to preventive dentistry (caries prevention, increase of fluoride fixation, removal of incipient carious lesions with ND-YAG, AsGa and excimer laser). 16.03% referred to operative dentistry (destruction and sterilization of carious lesions, enamel and dentin etching with CO<sub>2</sub>, ND-YAG and excimer laser). Other uses included: holography, oral medicine and welding in prosthodontics (13, 9, 3 and 4.7%)

Hence, we suggest that lasers could be used in Pediatric Dentistry to fix fluoride to enamel, to prevent and treat carious lesions, to etch enamel, perform pulpotomies and oral surgery, since it is a fast, painless, secure and well-tested method. Nevertheless, there are polemics about the pulpal effects and more research should be made.

**KEYWORDS:** LASER, DENTAL, SCIENTIFIC EVIDENCE.