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THE EFFECT OF DIODE LASERS IN DENTISTRY

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Lasers are used in soft and hard tissues treatment and can be classified to various types of laser used in treatment like He-Ne (632.5 nm), diode lasers with various wavelengths 810, 940, 980, 1064 nm, Nd: YAG (1064 nm), CO₂ (10600, 9600, 9300 nm), Er: YAG (2940 nm) and Er, Cr: YSGG (2780 nm). One of the most dominant lasers that used in dentistry are diode lasers with their different wavelengths, It is important to know the role of diode lasers in dentistry and their dental applications with different wavelengths as treatment of haemangioma by photocoagulation is easier with 980 nm than 810 nm as absorption of haemoglobin in 980 nm is more than in 810 nm. Regarding the photobiomodulation therapy the main chromophore that used is cytochrome c oxidase, the effect

of 810 nm is greater than 980 nm, and it will be more effective in pain relief, wound healing as treatment of aphthous ulcers and herpes simplex. On the other hand the energy of 445 nm is higher than 635 nm, and it will be more efficiency in cutting the tissue. Dental diode lasers applications are a lot as gingivectomy, oral depigmentation, frenectomy, tongue tie, treatment of dentinal hypersensitivity and bleaching. On other wise diode lasers has a great effect in endodontics and periodontology, so author will assess and appraise the effect of diode lasers in dental applications.

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