

Table S1. Data Extraction of the Included Studies in the Systematic Review

Author	Country	Year	n (patients/teeth)	Study groups	Mean age	Placebo	assessment	number of sessions	wavelength (nm)	Energy Density (J/cm ²)	power density (W/cm ²)	power (W)	mode of emission	contact mode	probe used	exposure time (s)	Follow up duration	Treatment outcome
Moura et al.	Brasil	2019	20 patients per group (3 groups)	3 groups (Desensibilize KF 2%, Clinpro XT varnish and diode laser)	older than 18 ys	NO	VAS	4	808	4 J/cm ²	-	0.1	CW	-	-	10	24 weeks	All three groups showed significant improvement with no difference between groups
Tabibzadeh et al.	Iran	2018	8 patients (62 teeth randomly in 2 groups)	2 groups (Single group with one high power laser irradiation and combined group with low and high power irradiations)	41.7	NO	VAS	1-3	980	-	-	0.2-3	CW and pulsed	-	300 μm	20	3 months	Significant improvement in both groups with no difference between groups
Naghsh et al.	Iran	2020	7 patients	3 groups (660 nm, 810 nm and placebo)	25-45	YES	VAS	4	660 and 810	-	-	0.03-0.1	CW	In contact	-	120	2 months	significant improvement in the 4th week in the 810 nm group, and superior results in 660 nm compared to the placebo group
Sicilia et al.	Spain	2009	45 patients	3 groups (DL+placebo gel, Placebo laser +NK 10% and placebo laser and placebo gel)	41	YES	VRS	1	810	-	-	0.015-0.025	-	-	-	60	2 months	Superior immediate result showed with diode laser
Yilmaz et al.	Turkey	2010-2011	48 patients (244 teeth)	4 groups (DL, placebo laser, NaF varnish and placebo varnish)	41	YES	VAS	1	810	8.5 J/cm ²	-	0.5	CW	Distance 2 mm	3.5 Cm2	60	6 months	Both laser and NaF varnish showed equal effectiveness in pain reduction
Umberto R. et al.	Italy	2012	10 patients and 115 teeth	3 groups (1.25% NaF, DL and combination group)	25-60 y	NO	NRS	3	980	62.2 J/cm ²	-	0.5	PW (Ton 100ms Toff 100ms)	defocused mode	320 μ	-	1 month	better improvement in the DL group than varnish and superior results achieved in the combination group.
Raut et al.	India	2018	30 patients (99 teeth 33 each group)	3 groups (0.4%SnF ₂ + DL, DL alone and control no treatment group)	30-55 years	YES	VRS	1	940	-	1.6 W/cm ²	0.8	CW	defocused mode	2 Cm	80	1 month	statistically significant pain reduction in the test groups on 15 and 30 days.
Lopes A.O. et al.	Brasil	2017	32 patients, 117 teeth (13 teeth Per group)	9 groups (Gluma desensitizer, LPL with low dose, LPL with high dose, LPL low dose+ Gluma, LPL high dose+ Gluma, Nd:YAG, Nd:YAG+ Gluma, LPL low dose+ Nd:YAG and LPL high dose with Nd:YAG)	22-53 years	NO	VAS	3	810	10 J/cm ² for low dose group and 40 J/cm ² for high dose group	-	0.03-0.1	-	in contact	0.028cm2	9s per point in 4 points / 11s Per point 2 points, cervical and apical	18 months	All treatment groups showed significant pain reduction
Yilmaz et al.	Turkey	2011	51 patients (174 teeth)	3 groups (DL, Er,Cr:YSGG laser and no treatment control group)	44 SD 9.7 years	NO	VAS	1	810	8.5 J/cm ²	-	0.1	CW	-	-	60	3 months	immediate and long-term pain reduction was found in both experimental groups compared to control; no difference between both laser groups was found.
Pourshahidi et al.	Iran	2019	17 patients (34 teeth)	2 groups (DL and Er,Cr:YSGG laser)	18-70 years	NO	VAS	1	940	2.5 J/cm ²	-	0.4	CW	-	0.8Cm2	60	1 month	both groups showed significant pain reduction immediately, but the Er,Cr:YSGG laser showed superior pain reduction at 1-month intervals
Narayan an	Iran	2019	90 patients	2 main groups (fluorosis and non-fluorosis groups) subdivided into 3 groups (Potassium nitrate 5%, DL and combination group)	18-60 years	NO	VAS	1	810	-	-	1	CW	Distance 1 mm	bleaching tip	10s/ tooth	12 weeks	The combination group had a statistically significant reduction in pain at all time intervals with superior results in the fluorotic teeth group.