

Table S3. Type of periodontal disease and definition; interventions and follow-up; criteria for smoking/ years smoking; periodontal parameters, main results in periodontal parameters

Study and year of publication	Type of periodontitis and Definition	Interventions and Follow-up	criteria for smoking/ years of smoking	Periodontal parameters			
				Probing depth (PD mm)	Clinical Attachment level (CAL mm)	Bleeding on Probing (BOP%)	Plaque index (PI%)
Al- Kheraif et al. 2022 [26]	Stage- III Generalized chronic periodontitis PPD \geq 6 mm, CAL \geq 5 mm, and MBL in contralateral teeth, tooth loss \leq 4 teeth	Group NS CAP/ aPDT+RSD	Smokers \geq 10 cigarettes per day for 5 years.	Group NS CAP/aPDT+RSD Baseline 6.12 \pm 0.23 3 months 4.67 \pm 0.21*† 6 months 2.94 \pm 0.89*	Group NS CAP/aPDT+RSD Baseline 5.22 \pm 1.14 3 months 4.18 \pm 0.88*† 6 months 4.03 \pm 0.49*	Group NS CAP/aPDT+RSD Baseline 54.23 \pm 18.24 3 months 19.52 \pm 4.70* 6 months 16.91 \pm 3.21*	Group NS CAP/aPDT+RSD Baseline 35.72 \pm 5.21 3 months 12.34 \pm 4.42* 6 months 10.45 \pm 2.21*
		RSD alone					
		Group CS CAP/aPDT+RSD					
		RSD alone		RSD alone Baseline 6.21 \pm 0.71 3 months 4.41 \pm 0.53*† 6 months 3.43 \pm 0.41*	RSD alone Baseline 5.56 \pm 1.03 3 months 4.72 \pm 0.95*† 6 months 4.59 \pm 0.74*	RSD alone Baseline 57.25 \pm 16.37 3 months 23.35 \pm 9.42* 6 months 20.89 \pm 8.31*	RSD alone Baseline 39.32 \pm 9.21 3 months 14.25 \pm 3.12* 6 months 11.20 \pm 2.54*
		Follow-up: Baseline, 3 months, and 6 months					
				Group CS CAP/ aPDT+RSD Baseline 6.34 \pm 0.71 3 months 4.78 \pm 0.79*† 6 months 3.54 \pm 0.53*†	Group CS CAP/aPDT+RSD Baseline 7.45 \pm 1.25 3 months 6.72 \pm 0.47* 6 months 6.16 \pm 0.34*	Group CS CAP/aPDT+RSD Baseline 40.32 \pm 7.94 3 months 27.45 \pm 6.25 6 months 18.71 \pm 5.32*	Group CS CAP/aPDT+RSD Baseline 41.15 \pm 9.23 3 months 12.21 \pm 3.42* 6 months 14.56 \pm 2.37*
				RSD alone Baseline 6.43 \pm 0.51 3 months 5.78 \pm 0.74† 6 months 4.49 \pm 0.42*†	RSD alone Baseline 7.32 \pm 1.41 3 months 6.81 \pm 0.79* 6 months 6.52 \pm 0.35*	RSD alone Baseline 35.41 \pm 6.82 3 months 24.19 \pm 7.92 6 months 25.45 \pm 7.21	RSD alone Baseline 42.14 \pm 10.12 3 months 16.36 \pm 6.12 6 months 19.41 \pm 7.23

Al- Kheraif et al. 2022 [25]	<p>Stage- II Generalized chronic periodontitis</p> <p>PD ≥ 5 mm, CAL of 3– 4 mm and horizontal alveolar bone loss in contralateral teeth</p>	<p>Group NS CAP/PDT+DS DS alone</p> <p>Group CS CAP/PDT+DS DS alone</p> <p>Follow-up: Baseline, 3 months, and 6 months</p>	Smokers ≥10 cigarettes per day for at least 5 years.	<p>Group NS CAP/PDT+DS Baseline 4.64±0.55 3 months 3.12±0.28*† 6 months 2.89±0.21*</p> <p>DS alone Baseline 4.72±0.69 3 months 3.68±0.45*† 6 months 3.03±0.38*</p> <p>Group CS CAP/PDT+DS Baseline 4.59±0.83 3 months 3.28±0.61* 6 months 2.97±0.43*†</p> <p>DS alone Baseline 4.51±0.77 3 months 3.92±0.63 6 months 3.76±0.49*†</p>	<p>Group NS CAP/PDT+DS Baseline 5.22±1.14 3 months 4.18±0.88*† 6 months 4.03±0.49*</p> <p>DS alone Baseline 5.56±1.03 3 months 4.72±0.95*† 6 months 4.59±0.74*</p> <p>Group CS CAP/PDT+DS Baseline 5.83±1.25 3 months 4.67±0.82* 6 months 4.16±0.44*</p> <p>DS alone Baseline 5.46±1.41 3 months 4.91±0.76* 6 months 4.62±0.65*</p>	<p>Group NS CAP/PDT+DS Baseline 52.68±20.04 3 months 17.46±4.71* 6 months 14.87±2.90*</p> <p>DS alone Baseline 55.27±18.23 3 months 21.52±7.32* 6 months 18.69±6.51*</p> <p>Group CS CAP/PDT+DS Baseline 38.71±6.82 3 months 25.42±5.81 6 months 16.59±4.93*</p> <p>DS alone Baseline 34.62±7.99 3 months 23.27±8.10 6 months 24.66±7.46</p>	<p>Group NS CAP/PDT+DS Baseline 34.61±8.63 3 months 11.82±3.46* 6 months 9.71±2.66*</p> <p>DS alone Baseline 38.45±10.34 3 months 13.82±4.01* 6 months 10.15±4.60*</p> <p>Group CS CAP/PDT+DS Baseline 39.08±11.67 3 months 12.28±5.03* 6 months 14.72±6.66*</p> <p>DS alone Baseline 40.04±13.63 3 months 14.78±6.54* 6 months 17.83±8.09*</p>
AlAhmari et al. 2019 [24]	<p>Generalized chronic periodontitis</p> <p>Presence of at least 30% of sites with CAL ≥ 3 mm and PD >3 mm</p>	<p>Group 1 CS SRP alone SRP+aPDT</p> <p>Group 2 NS SRP alone SRP+aPDT</p> <p>Follow-up: Baseline, 1 month, and 3 months</p>	Mean history of cigarette smoking of 12.5 years	<p>Group 1 CS SRP alone Baseline 6.1 ± 0.5 1 month 5.4 ± 1.1 3 months 5.5 ± 1.2</p> <p>SRP+aPDT Baseline 6.4 ± 0.8 1 month 5.7 ± 0.4 3 months 5.8 ± 1.1</p>	<p>Group 1 CS SRP alone Baseline 7.1 ± 0.7 1 month 6.3 ± 0.6 3 months 6 ± 0.4</p> <p>SRP+aPDT Baseline 7.4 ± 0.7 1 month 6.4 ± 0.9 3 months 6.2 ± 0.5</p>	<p>Group 1 CS SRP alone Baseline 35.3 ± 6.9 1 month 30.6 ± 6.4 3 months 32.7 ± 2.4</p> <p>SRP+aPDT Baseline 31.6 ± 4.5 1 month 28.7 ± 2.8 3 months 28.2 ± 1.6</p>	<p>Group 1 CS SRP alone Baseline 52.6 ± 9.3 1 month 34.9 ± 8.4 3 months 38.5 ± 5.6</p> <p>SRP+aPDT Baseline 55.2 ± 5.6 1 month 30.3 ± 5.1 3 months 35.2 ± 3.9</p>

				Group 2 NS SRP alone Baseline 6.6 ± 0.4 1 month 4.4 ± 0.8 3 months 4.1 ± 0.5 SRP+aPDT Baseline 6.4 ± 0.5 1 month 4.6 ± 1.1 3 months 4.2 ± 0.8	Group 2 NS SRP alone Baseline 7.2 ± 0.5 1 month 5.2 ± 0.3 3 months 4.9 ± 0.6 SRP+aPDT Baseline 7.1 ± 0.3 1 month 5 ± 0.6 3 months 5.2 ± 0.4	Group 2 NS SRP alone Baseline 61.2±9.6 1 month 17.3±4.5 3 months 20.3±4.7 SRP+aPDT Baseline 65.4±6.6 1 month 19.4±8.1 3 months 21.6±5.4	Group 2 NS SRP alone Baseline 57.3±8.4 1 month 20.2±3.6 3 months 23.5±4.1 SRP+aPDT Baseline 54.8±6.6 1 month 21.6±6.2 3 months 22.3±4.1
De Melo Soares M et al. 2019 [21]	Generalized Chronic periodontitis Interproximal periodontal pockets with PD and CAL ≥ 5 mm in contralateral teeth	Test Group SRP+aPDT Group Control SRP Follow-up: Baseline 30 and 90 days	Smokers ≥10 cigarettes per day at least 5 years	Moderate pockets SRP+aPDT Baseline 5.17±0.45 30 days 3.81 ± 0.85* 90 days 3.87±0.86* SRP Baseline 5.33±0.43 30 days 4.33 ±0.90* 90 days 4.13±1.09* Deep pockets SRP+aPDT Baseline 7.29±0.95 30 days 6.64± 1.49 90 days 5.14±1.06* SRP Baseline 7.27±0.43 30 days 6.17± 1.62 90 days 5.50±1.11	Moderate pockets SRP+aPDT Baseline 5.25±0.59 30 days 4..41 ± 1.18* 90 days 4.40±1.16* SRP Baseline 5.34±0.95 30 days 4..47 ± 1.32 90 days 4.53±1.18 Deep pockets SRP+aPDT Baseline 7.59± 1.02 30 days 6.64± 1.13 90 days 5.87± 1.31* SRP Baseline 7.47±0.67 30 days 5.92±1.53* 90 days 5.70±1.46*	SRP+aPDT Baseline 71.42 30 days 44.65 90 days 62 SRP Baseline 65.45 30 days 31.18 90 days 53.06	SRP+aPDT Baseline 67.85 30 days 33.92 90 days 34 SRP Baseline 70.90 30 days 44.44 90 days 25

Theodoro et al. 2018 [20]	Severe generalized chronic periodontitis In at least 6 teeth, including one or several sites with PD \geq 5 mm; CAL \geq 5 mm; a minimum of 30% of the sites with PD and CAL \geq 4 mm and BOP	Group 1 SRP Group 2 SRP + MTZ-AMX Group 3 SRP + aPDT Follow-up: Baseline, 90 and 180 days	Smokers \geq 10 cigarettes per day for \geq 5 years	Group 1 SRP Baseline 4.19 \pm 0.85 90 days 4.84 \pm 0.62 180 days 3.85 \pm 0.73 Group 3 SRP+aPDT Baseline 4.02 \pm 0.42 90 days 3.58 \pm 0.36* 180 days 3.54 \pm 0.33*	Group 1 SRP Baseline 4.68 \pm 0.94 90 days 4.51 \pm 0.80 180 days 4.47 \pm 0.80† Group 3 SRP+aPDT Baseline 4.55 \pm 0.39 90 days 4.12 \pm 0.36* 180 days 4.11 \pm 0.34*†	Group 1 SRP Baseline 76.48 \pm 22.68 90 days 69.12 \pm 19.44 180 days 68.89 \pm 22.02 Group 3 SRP+aPDT Baseline 87.88 \pm 9.61 90 days 69.40 \pm 13.08* 180 days 59.69 \pm 17.97*	NA
Queiroz et al. 2015[27]	Chronic periodontitis Presenting bilaterally at least 2 sites with PD \geq 5 mm; at least 20 teeth present	Group Test SRP+aPDT Group Control SRP Follow-up: Baseline, 4 weeks and 12 weeks	Smokers \geq 10 cigarettes per day for \geq 5 years	SRP+aPDT Baseline 5.39 \pm 0.74 4 Weeks 3.52 \pm 0.82* 12 weeks 3.58 \pm 1.05* SRP Baseline 5.35 \pm 0.70 4 Weeks 3.37 \pm 0.98* 12 weeks 3.77 \pm 1.06*	SRP+aPDT Baseline 10.83 \pm 1.45 4 Weeks 9.01 \pm 1.70* 12 weeks 9.24 \pm 1.91* SRP Baseline 11.12 \pm 1.52 4 Weeks 9.28 \pm 1.60* 12 weeks 9.72 \pm 1.86*	NA	NA
Queiroz et al. 2014 [28]	Chronic periodontitis Presenting bilaterally at least 2 sites with PD \geq 5 mm; at least 20 teeth	Group Test SRP+aPDT Group Control SRP	Smokers \geq 10 cigarettes per day for \geq 5 years	NA	NA	NA	NA

Al-Zahrani et al. 2011 [29]	Generalized chronic periodontitis. Marginal radiographic alveolar bone loss of >20% and CAL ≥ 3 mm at 30% or more of sites.	Group Test SRP+aPDT Group Control SRP Follow-up: Baseline and 3 months	Smokers ≥10 cigarettes per day for at ≥5 years.	SRP+aPDT Baseline 5.60±0.83 3 months 3.84±0.85*† SRP Baseline 5.35±0.46 3 months 3.90±0.75*†	SRP+aPDT Baseline 6.30±1.44 3 months 4.70±1.27*† SRP Baseline 6.18±1.40 3 months 4.80±1.45*†	SRP+aPDT Baseline 74.50±21.50 3 months 41.90±22.30* SRP Baseline 68.00±23.00 3 months 45.60±19.50*	SRP+aPDT Baseline 78.50±16.10 3 months 41.90±17.90 SRP Baseline 75.90±15.80 3 months 43.60±16.60
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PD, probing depth; CAL, clinical attachment level; NS, never smokers; CS, cigarette smokers; aPDT, antimicrobial photodynamic therapy; RSD, root surface debridement; DS, dental scaling; SRP, scaling root planing; *Intra-group, difference from baseline, $p < 0.05$; †Inter-group difference, significant differences between groups across same timeline ($p < .05$); NA, not evaluated.