## Figures

**Figure S1.** Tornado diagram



**Figure S2.** One*-*way sensitivity analysis: cost of conventional therapy (First year)



**Figure S3.** One*-*way sensitivity analysis: cost of conventional therapy (Five years)



**Figure S4.** One-way sensitivity analysis: cost of NSPT (First year)



**Figure S5.** One-way sensitivity analysis of probability of periodontal stability: conventional therapy



**Figure S6.** One-way sensitivity analysis of probability of periodontal stability: NSPT



**Figure S7.** Monte Carlo simulation: cost of NSPT



**Figure S8.** Monte Carlo simulation: cost of conventional therapy cost.



**Figure S9.** Monte Carlo simulation: NSPT effectiveness



**Figure S10.** Monte Carlo simulation: CT effectiveness



## Tables

**Table S1.** Characteristics of expert panel members

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nº | Sex | City | Experience (years)  | Institution |
| 1 | Female | Bogotá | 3 | Health Promotion Entities |
| 2  | Female | Santa Marta | 11 | Independent Dental Clinic/Private Dentist Practice |
| 3 | Male | Bogotá | 25 | Independent Dental Clinic/Private Dentist Practice |
| 4 | Female | Bogotá | 5 | Independent Dental Clinic/Private Dentist Practice |
| 5 | Male | Medellín | 18 | Independent Dental Clinic/Private Dentist Practice |
| 6  | Male | Cali | 39 | Independent Dental Clinic/Private Dentist Practice |
| 7 | Female | Armenia | 20 | P Independent Dental Clinic/Private Dentist Practice |
| 8 | Male | Bogotá | 19 | Independent Dental Clinic/Private Dentist Practice |
| 9 | Female | Cali | 3 | Independent Dental Clinic/Private Dentist Practice |
| 10 | Female | Bogotá | 5 | Health Promotion Entities |
| 11 | Female | Bogotá | 7 | Health Promotion Entities |
| 12  | Male | Valledupar | 3 | Health Promotion Entities |
| 13 | Male | Bogotá | 4 |  ADRES |
| 14  | Male | Bogotá | 7 | Prepaid medicine; Health Promotion Entities |
| 15 | Male | Bogotá | 18 | Independent Dental Clinic/Private Dentist Practice; Health Promotion Entities |

ADRES: Administrator of Resources of the General System of Social Security in Health

**Table S2.** Expert panel information

|  |  |  |  |
| --- | --- | --- | --- |
|   | **Mean** | **Min** | **Max**  |
| **Dental consultation by dentist** | USD 5,19 | USD 2,80 | USD 6,03 |
| **Periodontal consultation by periodontist** | USD 6,53 | USD 4,13 | USD 13,33 |
| **Oral Hygiene Instructions and dental plaque control** | USD 2,63 | USD 1,41 | USD 4,13 |
|  **Scaling and root planing (Per Quadrant)** | USD 22,48 | USD 10,89 | USD 40,27 |
| **Supragingival scaling (Per Quadrant)** | USD 16,49 | USD 3,79 | USD 40,27 |
|  **Scaling with root planing and modified Widman flap (Per quadrant)** | USD 37,97 | USD 8,00 | USD 66,67 |
| **Gingivoplasty ( Per Sextant)** | USD 30,67 | USD 6,67 | USD 93,33 |
| **Simple Tooth Extraction – Single rooted tooth (Per Tooth)** | USD 5,28 | USD 3,67 | USD 8,00 |
| **Simple Tooth Extraction - Multirooted tooth (Per Tooth)** | USD 7,13 | USD 4,41 | USD 10,67 |
| **Gum grafting (Per Tooth)** | USD 37,61 | USD 12,21 | USD 93,33 |
| **Gingivectomy (Per Tooth)** | USD 34,65 | USD 3,38 | USD 101,33 |
| **Periodontal session-duration** | 60 minutes |
| **Number of sessions in the first year** | 4 |
| **Number of sessions from year 2 to onwards**  | 2 |
| **Describe your treatment plan for a patient with the following characteristics: A. Probing depth ≤ 4 mm, CAL 1-2 B. Probing depth ≤ 5 mm, CAL 3-4 mm C. Probing depth 6-7 mm, CAL ≤ 5mm** | **A and B. P**eriodontal evaluation, with medicine monitoring, plaque control, education and instruction in oral hygiene and scaling and root planing. **C.** The same previous activities plus scaling with root planing and modified Widman flap |
| **During the first year, sessions should be planned according to the following patient's characteristics: A. Probing depth ≤ 4 mm, CAL 1-2 B. Probing depth ≤ 5 mm, CAL 3-4 mm C. Probing depth 6-7 mm, CAL ≤ 5mm** | A. Every 6 months |
| B and C. Every 3 months |
| **After the second year, sessions should be planned according to the following patient’s characteristics: A. Probing depth ≤ 4 mm, CAL 1-2 B. Probing depth ≤ 5 mm, CAL 3-4 mm C. Probing depth 6-7 mm, CAL ≤ 5mm** | Every 6 months |
| **In the case of periodontally stabilized/controlled patients, how would this change?** | The sessions take place every six months and last 30 minutes each. |
| **In the case of periodontally worsening patients, how would this change?** | The sessions are now held every three months and are longer. |

**Search strategies**

**Table S3.** PUBMED and Epistemonikos: January 15, 2020

|  |  |
| --- | --- |
| Intervention/Exposition |  ( ( ("periodontal therapy" OR "supragingival" OR (dental\* AND scaling\*) OR OR "root planning" OR (mechanical\* AND debridement\*) OR "periodontal debridement" OR "dental prophylaxis" OR "dental cleaning" OR "dental cleaning procedure" OR "periodontal cleaning" OR "periodontal prophylaxis" OR "teeth cleaning" OR " " OR "tooth cleaning" OR "tooth prophylaxis" OR "supragingival" OR (non surgical\* AND periodontal\*and therapy\*) OR "non-surgical periodontal therapy" OR (periodontal\* AND curettage\*) OR "subgingival curettage" OR (periodontal\* AND treatment\*) OR "supragingival" OR "periodontal intervention" OR "periodontal maintenance")))) AND ( ("patient compliance" OR complia\* OR complier\* OR noncompli\* ))) |
| Population | "periodontitis" |
|

**Table S4.** EMBASE: January 15, 2020

|  |  |  |
| --- | --- | --- |
| #2 | Population |  (periodontitis\* OR (chronic\* AND periodontitis) |
| #1 | Intervention/Exposition |  ('periodontal therapy' OR 'dental scaling' OR 'root planing' OR 'root planning' OR (mechanical\* AND debridement\*) OR 'periodontal debridement' OR 'dental prophylaxis' OR 'dental cleaning' OR 'dental cleaning procedure' OR 'periodontal cleaning' OR 'periodontal prophylaxis' OR 'teeth cleaning' OR ' ' OR 'tooth cleaning' OR 'tooth prophylaxis' OR 'supragingival' OR (non AND surgical\* AND periodontal\*and AND therapy\*) OR 'non-surgical periodontal therapy' OR (periodontal\* AND curettage\*) OR 'subgingival curettage' OR (periodontal\* AND treatment\*) OR 'periodontal intervention' OR 'periodontal maintenance') AND ( ('patient compliance' OR complia\* OR complier\* OR noncompli\* ))) |

**Tabla S5.** LILACS: January 15, 2020

|  |  |
| --- | --- |
| Population |  (tw: ("periodontitis" OR "periodontitis cronica")) |
| Intervention/Exposition |  (tw: ("tratamiento periodontal" OR "raspaje y alisado radicular" OR "supragingival" OR "profilaxis dental" OR "detartraje" OR "curetaje" )) AND (“adherencia” OR “cumplimiento”) |

**Table S6.** Cost-effectiveness report for one and five years.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dominance | Strategy | Cost | Incr Cost | Eff | Incr Eff | ICER | NMB |
| 1 years |  | NSPT | USD 443  |  | 0.69 |  |  | USD -443  |
| Dominated | SC | USD 530  | USD 87  | 0.32 | -0.37 | -234 | USD -530  |
| 5 years |  | NSPT | USD 12,358  |  | 0.69 |  |  | USD -1,236  |
| Dominated | SC | USD 16,356  | USD 400  | 0.32 | -0.37 | -1074 | USD -1,636  |

Incr Cost: Incremental Cost; Eff: Effectiveness; Incr Eff: Incremental effectiveness; ICER: incremental cost-effectiveness ratio; NMB: Net Monetary Benefits; NSPT: NSPT; SC: SC/Conventional therapy \* Dominance Report: The strategy "SC" is dominated by " NSPT ".

**Table S7.** Discount rate. Costs in US dollars 2019

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | 0 | 3,5 | 5 | 7 | 12 |
| SC | USD 1,236 | USD 1,176 | USD 1,152 | USD 1,121 | USD 1,048 |
| NSPT | USD 1,636 | USD 1,535 | USD 1,494 | USD 1,441 | USD 1,318 |
| Incremental cost | USD -400 | USD -359 | USD -342 | USD -320 | USD -270 |

NSPT: NSPT; SC: SC/Conventional therapy

**Table S8.** Monte Carlo Summary Text Report (1 year)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Attribute name | Statistic | Strategy | Value | Statistic index | Strategy index | Attribute index |
| Cost | Mean | NSPT | USD 442 | 0 | 1 | 1 |
| Cost | Std Deviation | NSPT | USD 81 | 1 | 1 | 1 |
| Cost | Minimum | NSPT | USD 396 | 2 | 1 | 1 |
| Cost | 2.5% | NSPT | USD 396 | 3 | 1 | 1 |
| Cost | 10% | NSPT | USD 396 | 4 | 1 | 1 |
| Cost | Median | NSPT | USD 396 | 5 | 1 | 1 |
| Cost | 90% | NSPT | USD 584 | 6 | 1 | 1 |
| Cost | 97.5% | NSPT | USD 584 | 7 | 1 | 1 |
| Cost | Maximum | NSPT | USD 584 | 8 | 1 | 1 |
| Cost | Sum | NSPT | USD 4,422,749 | 9 | 1 | 1 |
| Cost | Size (n) | NSPT | 10,000 | 10 | 1 | 1 |
| Cost | Variance | NSPT | USD 24,315,485 | 11 | 1 | 1 |
| Cost | Variance/Size | NSPT | USD 2,432 | 12 | 1 | 1 |
| Cost | SQRT[Variance/Size] | NSPT | USD 0.8 | 13 | 1 | 1 |
| Cost | Mean | SC | USD 535 | 0 | 2 | 1 |
| Cost | Std Deviation | SC | USD 279 | 1 | 2 | 1 |
| Cost | Minimum | SC | USD 148 | 2 | 2 | 1 |
| Cost | 2.5% | SC | USD 148 | 3 | 2 | 1 |
| Cost | 10% | SC | USD 148 | 4 | 2 | 1 |
| Cost | Median | SC | USD 736 | 5 | 2 | 1 |
| Cost | 90% | SC | USD 736 | 6 | 2 | 1 |
| Cost | 97.5% | SC | USD 736 | 7 | 2 | 1 |
| Cost | Maximum | SC | USD 736 | 8 | 2 | 1 |
| Cost | Sum | SC | USD 5,348,244 | 9 | 2 | 1 |
| Cost | Size (n) | SC | USD 3 | 10 | 2 | 1 |
| Cost | Variance | SC | USD 291,941,027 | 11 | 2 | 1 |
| Cost | Variance/Size | SC | USD 29,194 | 12 | 2 | 1 |
| Cost | SQRT[Variance/Size] | SC | USD 3 | 13 | 2 | 1 |
| Eff | Mean | NSPT | 0.6961 | 0 | 1 | 2 |
| Eff | Std Deviation | NSPT | 0.4599 | 1 | 1 | 2 |
| Eff | Minimum | NSPT | 0 | 2 | 1 | 2 |
| Eff | 2.5% | NSPT | 0 | 3 | 1 | 2 |
| Eff | 10% | NSPT | 0 | 4 | 1 | 2 |
| Eff | Median | NSPT | 1 | 5 | 1 | 2 |
| Eff | 90% | NSPT | 1 | 6 | 1 | 2 |
| Eff | 97.5% | NSPT | 1 | 7 | 1 | 2 |
| Eff | Maximum | NSPT | 1 | 8 | 1 | 2 |
| Eff | Sum | NSPT | 6,961 | 9 | 1 | 2 |
| Eff | Size (n) | NSPT | 10,000 | 10 | 1 | 2 |
| Eff | Variance | NSPT | 0.2115 | 11 | 1 | 2 |
| Eff | Variance/Size | NSPT | 0.00002 | 12 | 1 | 2 |
| Eff | SQRT[Variance/Size] | NSPT | 0.005 | 13 | 1 | 2 |
| Eff | Mean | SC | 0.3098 | 0 | 2 | 2 |
| Eff | Std Deviation | SC | 0.4624 | 1 | 2 | 2 |
| Eff | Minimum | SC | 0 | 2 | 2 | 2 |
| Eff | 2.5% | SC | 0 | 3 | 2 | 2 |
| Eff | 10% | SC | 0 | 4 | 2 | 2 |
| Eff | Median | SC | 0 | 5 | 2 | 2 |
| Eff | 90% | SC | 1 | 6 | 2 | 2 |
| Eff | 97.5% | SC | 1 | 7 | 2 | 2 |
| Eff | Maximum | SC | 1 | 8 | 2 | 2 |
| Eff | Sum | SC | 3,098 | 9 | 2 | 2 |
| Eff | Size (n) | SC | 10,000 | 10 | 2 | 2 |
| Eff | Variance | SC | 0.2138 | 11 | 2 | 2 |
| Eff | Variance/Size | SC | 0.00002 | 12 | 2 | 2 |
| Eff | SQRT[Variance/Size] | SC | 0.00462 | 13 | 2 | 2 |
| NMB | Mean | NSPT | USD -442 | 0 | 1 | 4 |
| NMB | Std Deviation | NSPT | USD 81 | 1 | 1 | 4 |
| NMB | Minimum | NSPT | USD -584 | 2 | 1 | 4 |
| NMB | 2.5% | NSPT | USD -584 | 3 | 1 | 4 |
| NMB | 10% | NSPT | USD -584 | 4 | 1 | 4 |
| NMB | Median | NSPT | USD -396 | 5 | 1 | 4 |
| NMB | 90% | NSPT | USD -396 | 6 | 1 | 4 |
| NMB | 97.5% | NSPT | USD -396 | 7 | 1 | 4 |
| NMB | Maximum | NSPT | USD -396 | 8 | 1 | 4 |
| NMB | Sum | NSPT | USD -4,422,749 | 9 | 1 | 4 |
| NMB | Size (n) | NSPT | 10,000 | 10 | 1 | 4 |
| NMB | Variance | NSPT | USD 24,315,485 | 11 | 1 | 4 |
| NMB | Variance/Size | NSPT | USD 2,432 | 12 | 1 | 4 |
| NMB | SQRT[Variance/Size] | NSPT | USD 0.8 | 13 | 1 | 4 |
| NMB | Mean | SC | USD -535 | 0 | 2 | 4 |
| NMB | Std Deviation | SC | USD 279 | 1 | 2 | 4 |
| NMB | Minimum | SC | USD -736 | 2 | 2 | 4 |
| NMB | 2.5% | SC | USD -736 | 3 | 2 | 4 |
| NMB | 10% | SC | USD -736 | 4 | 2 | 4 |
| NMB | Median | SC | USD -736 | 5 | 2 | 4 |
| NMB | 90% | SC | USD -148 | 6 | 2 | 4 |
| NMB | 97.5% | SC | USD -148 | 7 | 2 | 4 |
| NMB | Maximum | SC | USD -148 | 8 | 2 | 4 |
| NMB | Sum | SC | USD -5,348,244 | 9 | 2 | 4 |
| NMB | Size (n) | SC | 10,000 | 10 | 2 | 4 |
| NMB | Variance | SC | USD 291,941,027 | 11 | 2 | 4 |
| NMB | Variance/Size | SC | USD 29,194 | 12 | 2 | 4 |
| NMB | SQRT[Variance/Size] | SC | USD 3 | 13 | 2 | 4 |

Eff: Effectiveness; NMB: Net Monetary Benefits; NSPT: NSPT; SC: SC/Conventional therapy

**Table S9. Monte Carlo Summary Text Report (5 years)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Attribute name | Statistic | Strategy | Value (USD) | Statistic index | Strategy index | Attribute index |
| Cost | Mean | NSPT | USD 1,236 | 0 | 1 | 1 |
| Cost | Std Deviation | NSPT | USD 81 | 1 | 1 | 1 |
| Cost | Minimum | NSPT | USD 1,189 | 2 | 1 | 1 |
| Cost | 2,5% | NSPT | USD 1,189 | 3 | 1 | 1 |
| Cost | 10% | NSPT | USD 1,189 | 4 | 1 | 1 |
| Cost | Median | NSPT | USD 1,189 | 5 | 1 | 1 |
| Cost | 90% | NSPT | USD 1,376 | 6 | 1 | 1 |
| Cost | 97,5% | NSPT | USD 1,376 | 7 | 1 | 1 |
| Cost | Maximum | NSPT | USD 1,376 | 8 | 1 | 1 |
| Cost | Sum | NSPT | USD 12,360,850 | 9 | 1 | 1 |
| Cost | Size (n) | NSPT | 10,000 | 10 | 1 | 1 |
| Cost | Variance | NSPT | USD 24,744,494 | 11 | 1 | 1 |
| Cost | Variance/Size | NSPT | USD 2,474 | 12 | 1 | 1 |
| Cost | SQRT[Variance/Size] | NSPT | USD 0.8 | 13 | 1 | 1 |
| Cost | Mean | SC | USD 1,645 | 0 | 2 | 1 |
| Cost | Std Deviation | SC | USD 655 | 1 | 2 | 1 |
| Cost | Minimum | SC | USD 738 | 2 | 2 | 1 |
| Cost | 2,5% | SC | USD 738 | 3 | 2 | 1 |
| Cost | 10% | SC | USD 38 | 4 | 2 | 1 |
| Cost | Median | SC | USD 2,119 | 5 | 2 | 1 |
| Cost | 90% | SC | USD 2,119 | 6 | 2 | 1 |
| Cost | 97,5% | SC | USD 2,119 | 7 | 2 | 1 |
| Cost | Maximum | SC | USD 2,119 | 8 | 2 | 1 |
| Cost | Sum | SC | USD 16,453,164 | 9 | 2 | 1 |
| Cost | Size (n) | SC | 10,000 | 10 | 2 | 1 |
| Cost | Variance | SC | USD 1,610,806,343 | 11 | 2 | 1 |
| Cost | Variance/Size | SC | USD 161,080,63 | 12 | 2 | 1 |
| Cost | SQRT[Variance/Size] | SC | USD 7 | 13 | 2 | 1 |
| Eff | Mean | NSPT | 0.68 | 0 | 1 | 2 |
| Eff | Std Deviation | NSPT | 0.46 | 1 | 1 | 2 |
| Eff | Minimum | NSPT | 0 | 2 | 1 | 2 |
| Eff | 2,5% | NSPT | 0 | 3 | 1 | 2 |
| Eff | 10% | NSPT | 0 | 4 | 1 | 2 |
| Eff | Median | NSPT | 1 | 5 | 1 | 2 |
| Eff | 90% | NSPT | 1 | 6 | 1 | 2 |
| Eff | 97,5% | NSPT | 1 | 7 | 1 | 2 |
| Eff | Maximum | NSPT | 1 | 8 | 1 | 2 |
| Eff | Sum | NSPT | 6874 | 9 | 1 | 2 |
| Eff | Size (n) | NSPT | 10,000 | 10 | 1 | 2 |
| Eff | Variance | NSPT | 0.21 | 11 | 1 | 2 |
| Eff | Variance/Size | NSPT | 0 | 12 | 1 | 2 |
| Eff | SQRT[Variance/Size] | NSPT | 0 | 13 | 1 | 2 |
| Eff | Mean | SC | 0.31 | 0 | 2 | 2 |
| Eff | Std Deviation | SC | 0.46 | 1 | 2 | 2 |
| Eff | Minimum | SC | 0 | 2 | 2 | 2 |
| Eff | 2,5% | SC | 0 | 3 | 2 | 2 |
| Eff | 10% | SC | 0 | 4 | 2 | 2 |
| Eff | Median | SC | 0 | 5 | 2 | 2 |
| Eff | 90% | SC | 1 | 6 | 2 | 2 |
| Eff | 97,5% | SC | 1 | 7 | 2 | 2 |
| Eff | Maximum | SC | 1 | 8 | 2 | 2 |
| Eff | Sum | SC | 3,120 | 9 | 2 | 2 |
| Eff | Size (n) | SC | 10,000 | 10 | 2 | 2 |
| Eff | Variance | SC | 0.21 | 11 | 2 | 2 |
| Eff | Variance/Size | SC | 0.00002 | 12 | 2 | 2 |
| Eff | SQRT[Variance/Size] | SC | 0.0046 | 13 | 2 | 2 |
| NMB | Mean | NSPT | USD - 1,236 | 0 | 1 | 4 |
| NMB | Std Deviation | NSPT | USD 81 | 1 | 1 | 4 |
| NMB | Minimum | NSPT | USD - 1,376 | 2 | 1 | 4 |
| NMB | 2,5% | NSPT | USD - 1,376 | 3 | 1 | 4 |
| NMB | 10% | NSPT | USD - 1,376 | 4 | 1 | 4 |
| NMB | Median | NSPT | USD - 1,189 | 5 | 1 | 4 |
| NMB | 90% | NSPT | USD -1,189 | 6 | 1 | 4 |
| NMB | 97,5% | NSPT | USD - 1,189 | 7 | 1 | 4 |
| NMB | Maximum | NSPT | USD - 1,189 | 8 | 1 | 4 |
| NMB | Sum | NSPT | USD - 12,360,850 | 9 | 1 | 4 |
| NMB | Size (n) | NSPT | 10,000 | 10 | 1 | 4 |
| NMB | Variance | NSPT | USD 24,744,494 | 11 | 1 | 4 |
| NMB | Variance/Size | NSPT | USD 2,474 | 12 | 1 | 4 |
| NMB | SQRT[Variance/Size] | NSPT | USD 0.8 | 13 | 1 | 4 |
| NMB | Mean | SC | USD - 1,645 | 0 | 2 | 4 |
| NMB | Std Deviation | SC | USD 655 | 1 | 2 | 4 |
| NMB | Minimum | SC | USD - 2,119 | 2 | 2 | 4 |
| NMB | 2,5% | SC | USD - 2,119 | 3 | 2 | 4 |
| NMB | 10% | SC | USD - 2,119 | 4 | 2 | 4 |
| NMB | Median | SC | USD - 2,119 | 5 | 2 | 4 |
| NMB | 90% | SC | USD - 738 | 6 | 2 | 4 |
| NMB | 97,5% | SC | USD - 738 | 7 | 2 | 4 |
| NMB | Maximum | SC | USD - 738 | 8 | 2 | 4 |
| NMB | Sum | SC | USD - 16,453,164 | 9 | 2 | 4 |
| NMB | Size (n) | SC | 10,000 | 10 | 2 | 4 |
| NMB | Variance | SC | USD 1,610,806,343 | 11 | 2 | 4 |
| NMB | Variance/Size | SC | USD 161,080 | 12 | 2 | 4 |
| NMB | SQRT[Variance/Size] | SC | USD 7 | 13 | 2 | 4 |

Eff: Effectiveness; NMB:Net Monetary Benefits; NSPT: NSPT; SC: SC/Conventional therapy