

Effects of Ayurvedic Health Supplements on Periodontal Health

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ABSTRACT

Ayurvedic herbs and polyherbal formulations such as curcumin (turmeric), triphala, and neem have been widely studied as adjuncts for plaque control, gingivitis and periodontitis. Randomized trials and systematic reviews show consistent anti-inflammatory, antioxidant and antimicrobial effects that can improve clinical indices (plaque index, gingival index, bleeding on probing) when used as mouthwashes, gels, or local adjuncts to scaling and root planing (SRP). However, heterogeneity of study designs, formulations, doses and short follow-up limit firm clinical recommendations. Ayurvedic supplements may be a useful adjunct to conventional periodontal therapy, but they are not replacements for mechanical debridement; clinicians should consider evidence strength, product quality and patient safety (drug interactions, pregnancy)¹.

Keywords: Ayurveda, curcumin, triphala, neem, periodontal disease, herbal adjuncts, mouthwash

I. INTRODUCTION

Periodontal disease is driven by bacterial biofilms and a dysregulated host inflammatory response. Conventional periodontal therapy centers on mechanical removal of biofilm (SRP) and, in some cases, systemic or local antimicrobials. Interest in Ayurvedic supplements arises from their traditional use and from modern pharmacology showing antimicrobial, anti-inflammatory and antioxidant properties that could modulate periodontal pathophysiology¹.

II. COMMON AYURVEDIC SUPPLEMENTS STUDIED IN PERIODONTAL CARE

2.1 Curcumin (*Curcuma longa*)

Properties: anti-inflammatory (inhibits NF- κ B, cytokine release), antioxidant, some

antimicrobial activity. Clinical evidence: multiple RCTs and meta-analyses report that locally delivered curcumin (gels/oral formulations) as an adjunct to SRP reduces probing depths, gingival inflammation and bleeding compared with SRP alone¹⁴⁶.

2.2 Triphala (*Embolica officinalis*, *Terminalia chebula*, *Terminalia bellirica*)

Properties: antimicrobial, antioxidant, mild anti-inflammatory. Clinical evidence: randomized trials comparing triphala mouthwash with 0.2% chlorhexidine have found similar reductions in plaque and gingival indices over short periods (2–6 weeks)².

2.3 Neem (*Azadirachta indica*)

Properties: antimicrobial compounds (nimbidin, azadirachtin), anti-inflammatory effects. Clinical evidence: several RCTs show neem-based mouthrinses or gels can reduce plaque and gingival inflammation, in some studies performing comparably to chlorhexidine for short-term use³.

2.4 Other herbs / polyherbal formulations

Aloe vera, pomegranate (*Punica granatum*), green tea extracts and other herbal extracts have shown promising antimicrobial/anti-inflammatory effects in small trials¹.

III. MECHANISMS OF ACTION

- Antimicrobial: direct growth inhibition, biofilm disruption.
- Anti-inflammatory: reduced cytokine production, modulation of host signalling pathways (e.g., NF- κ B).
- Antioxidant: scavenges reactive oxygen species, may reduce oxidative stress-driven tissue damage⁶.

3.1 Table — Supplements, typical formulations, putative mechanisms and evidence level

Supplement	Typical clinical formulation(s)	Putative mechanisms	Evidence summary
Curcumin	Local gel, oral gel, mouthwash, systemic	Anti-inflammatory, antioxidant, antimicrobial	Multiple RCTs + meta-analyses show modest adjunctive benefit to SRP ¹⁴
Triphala	Mouthwash, powder	Antimicrobial, antioxidant	RCTs show similar short-term efficacy to chlorhexidine ²
Neem	Mouthwash, gel, toothpaste ingredient	Antimicrobial, inflammatory	Several RCTs show plaque/gingival improvements ³
Aloe vera, pomegranate, green tea	Mouthwashes, gels	Antimicrobial, inflammatory, antioxidant	Small studies support benefit ¹

IV. SAFETY, DOSING AND INTERACTIONS

Supplement	Typical clinical use/dose	Safety considerations
Curcumin	1–2% topical gels; applications	Well tolerated; interacts with anticoagulants ⁶
Triphala	10–20% mouthwash or powder	Mild laxative; caution in pregnancy ²
Neem	10% mouthrinse or gels	Safe topically; systemic oil toxic in large doses ³
Other herbs	Varies	Quality concerns ¹

V. DISCUSSION AND CLINICAL IMPLICATIONS

Evidence supports several Ayurvedic agents (curcumin, triphala, neem) as adjuncts to SRP, particularly for reducing plaque, gingival inflammation and bleeding¹. Heterogeneity in formulations, concentrations, and duration makes comparison difficult¹. Herbal products vary between manufacturers; standardization is needed¹. Always use as adjuncts, never as replacements for SRP, and screen for drug interactions⁶.

VI. CONCLUSION

Ayurvedic supplements such as curcumin, triphala and neem show promising adjunctive benefits for gingivitis and mild-to-moderate periodontitis⁶. They should be viewed as adjuncts—not substitutes—for standard periodontal therapy.

compare the efficacy of triphala mouthwash with 0.2% chlorhexidine in periodontal diseases.

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