

# The effect of adjuvant bisphosphonates on nonsurgical periodontal treatment: systematic review with meta-analyses

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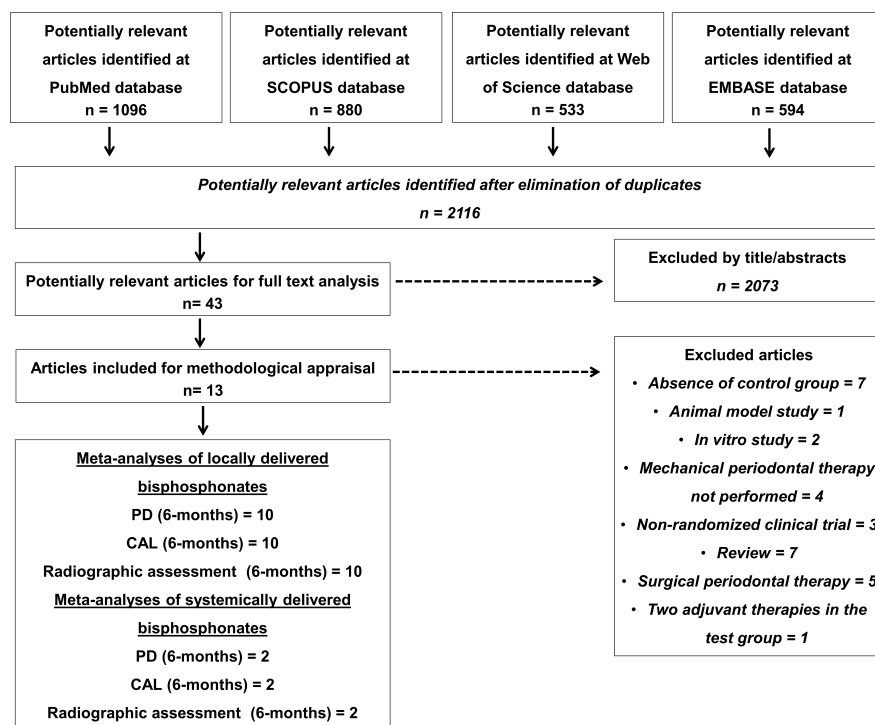
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## Abstract

To systemically review the literature about the use of bisphosphonates (BP) as adjuvant to periodontal treatment. Three databased were searched for randomized clinical trials that used any BP adjuvant to periodontal treatment. Meta-analyses were performed for clinical attachment level (CAL) and probing pocket depth (PPD). Subgroup analyses were considering diabetes and smoking exposure. Thirteen studies were included. It was showed mean difference (MD) of 1.52 mm (95%CI: 0.97–2.07) and 1.44 mm (95%CI: 1.08–1.79) for PPD reduction and CAL gain, respectively, when BP was locally delivered. Regarding the subgroup analysis, BP did not provide significant improvement in smokers for PPD (MD: 1.35; 95%CI: -0.13–2.83) and CAL (MD: 1.37; 95%CI: -0.17–2.91). The MD for systemically administered BP was 0.40 mm (95%CI: 0.21–0.60) and 0.51 (95%CI: 0.19–0.83) for PPD and CAL, respectively. Additional clinical effects of BP may be expected when administered with periodontal therapy.

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	?	?	+	+	+	+	+
Dutra et al., 2017	?	?	+	+	+	+	+
Graziani et al., 2009	?	?	+	+	+	+	+
Gupta et al., 2018	+	?	+	+	-	+	-
Ipshita et al., 2018	+	?	+	+	+	+	+
Pradeep et al., 2012	+	?	+	+	+	+	+
Pradeep et al., 2013	+	?	+	+	+	+	+
Pradeep et al., 2017	+	?	+	+	+	+	+
Rocha et al., 2001	?	?	+	-	+	+	+
Rocha et al., 2004	?	?	+	+	+	+	?
Sharma et al., 2017	+	?	+	+	+	+	+
Sharma and Pradeep, 2012 (a)	+	?	+	+	+	+	+
Sharma and Pradeep, 2012 (b)	+	?	+	+	+	+	+
Sheokand et al., 2018	+	?	+	?	-	+	?

**Legend**

**+** Low risk of bias

**-** High risk of bias

**?** Unclear risk of bias

RANDOM SEQUENCE GENERATION

ALLOCATION CONCEALMENT

BLINDING OF PARTICIPANTS AND PERSONNEL

BLINDING OF OUTCOME ASSESSMENT

INCOMPLETE OUTCOME DATA

SELECTIVE REPORTING

OTHER BIAS

