Periodontal disease severity in subjects with dementia: A systematic review and meta-analysis

Abstract

Background and objective

Despite clinical trials and reviews attempt to assess a possible relationship between dementia and periodontal disease, no meta-analysis has been performed and this issue remains undetermined. The aim of this study is to conduct a systematic review and meta-analysis to assess severity of periodontitis in subjects with dementia.

Methods

The search was conducted in Pubmed, Embase/MEDLINE. Two independent reviewers extracted data and assessed the risk bias (Newcastle–Ottawa scale). Meta-analyses were performed using the means of probing depth (PD) and clinical attachment loss (CAL) in patients with or without dementia. The mean difference were analyzed ($P \leq 0.05$).

Results

Fourteen studies were included in the systematic review. In the qualitative analysis, most studies reported higher prevalence of periodontal disease in dementia patients. The studies had low risk of bias and two meta-analyses were performed for each parameter, including or not a cross-sectional study. The meta-analyses including the cross-sectional study demonstrated significant association between dementia and periodontal disease (mean difference: PD = 1.41; CAL = 1.40, $P < 0.05$), however, it wasn't confirmed when the cross-sectional study was removed (1.25 mm, $P < 0.22$) and CAL (1.20 mm, $P < 0.22$).

Conclusion

Although the qualitative analysis have suggested worse periodontal conditions in dementia patients, due to different study types and the high heterogeneity among them, the meta-analysis does not support the association between dementia and severity of periodontal disease.