



Dental implant prognosis in periodontally compromised partially edentulous patients

Literature review and meta-analysis

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With the increasing development of implant dentistry, dental implants has become a common treatment alternative for oral rehabilitation also for the periodontitis patient who has experienced loss of parts of the dentition (Hardt et al 2001). Implant treatment in periodontitis-susceptible individuals is frequently debated. A question is whether this subgroup of patient susceptible to periodontitis may also show an elevated risk for peri-implant tissue destruction.

Objectives: This review searched for a relationship between susceptibility to chronic periodontitis and dental implant survival rates and occurrence of peri-implantitis as well as performed a meta-analysis to determine whether this relationship is statistically significantly related.

Materials and methods: A comprehensive PubMed search was performed from 2002 January 1st to 2012 December 1st. Longitudinal studies of ≥5 years of follow-up published in English and reporting on outcomes of peri-implantitis and/or implant survival in patients with a history of periodontitis compared with non-periodontitis patients were searched. We have performed a meta-analysis using the random-effects model to compare implant survival rates and prevalence of peri-implantitis among healthy and periodontally compromised patients.

Results:

Potentially relevant publications identified and screened for retrieval n=2314

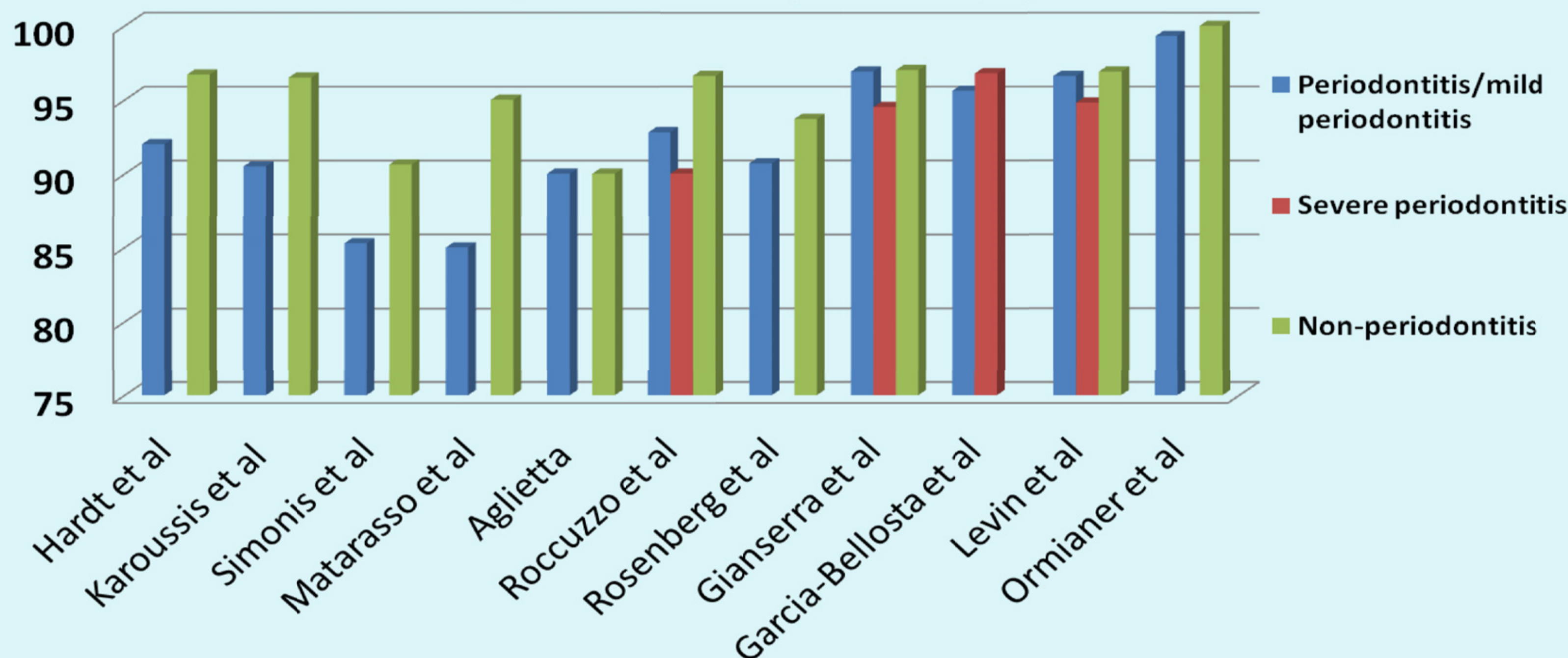
Full-text papers retrieved for more detailed evaluation n=34

Included full text articles n=19

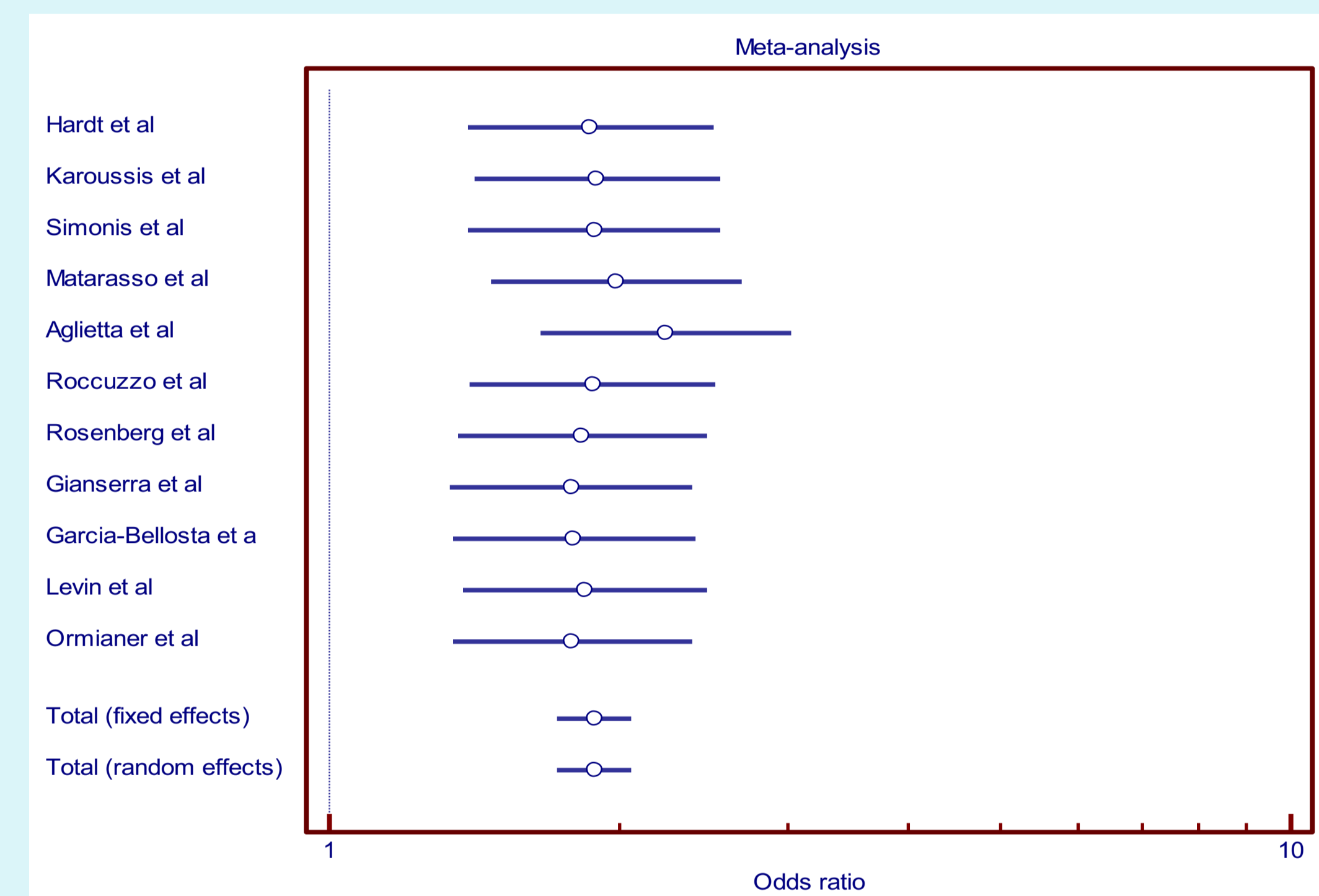
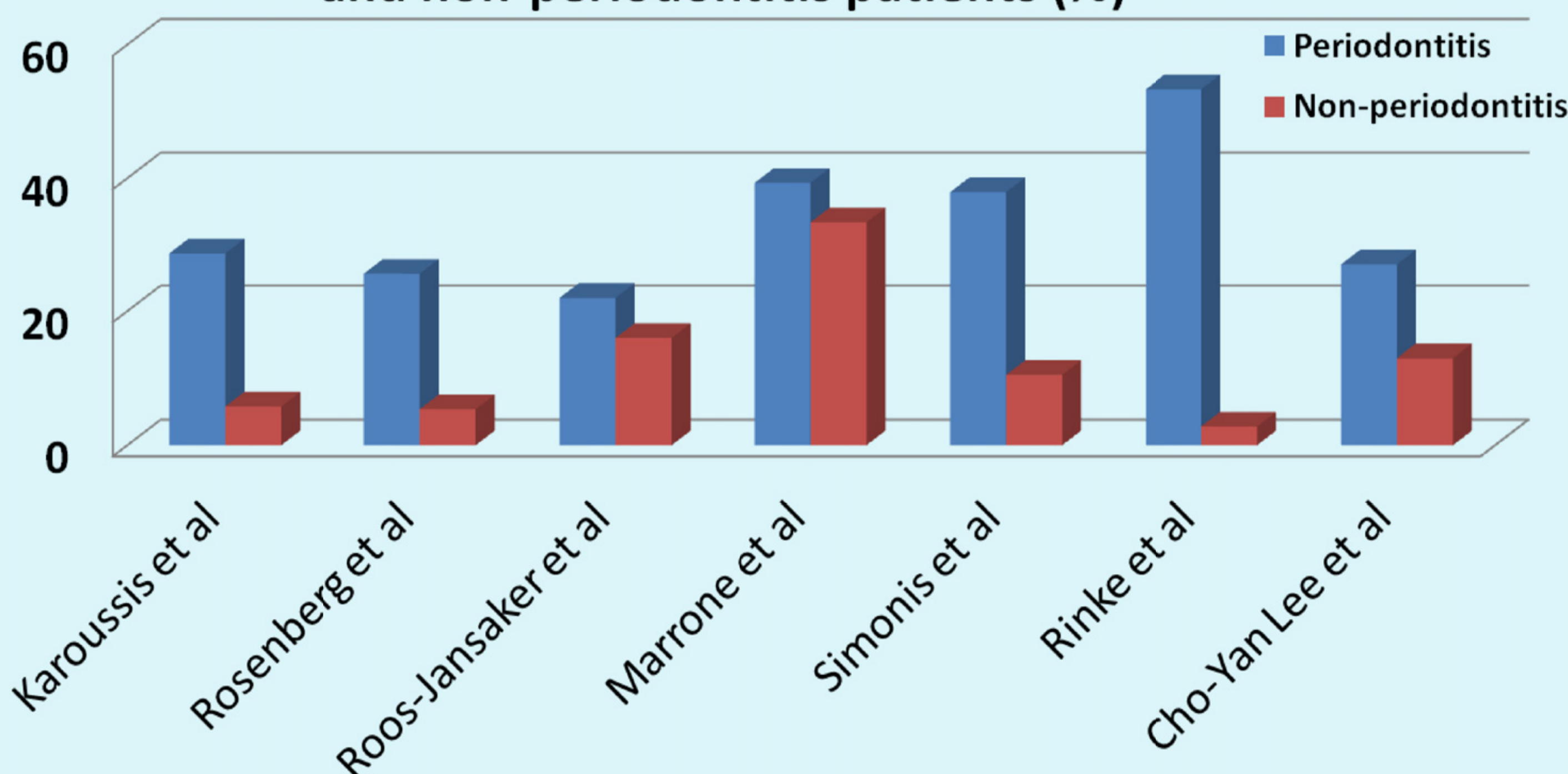
Papers excluded on basis of the titles and abstracts n=2280

Papers excluded for clearly not fulfilling inclusion criteria n=15

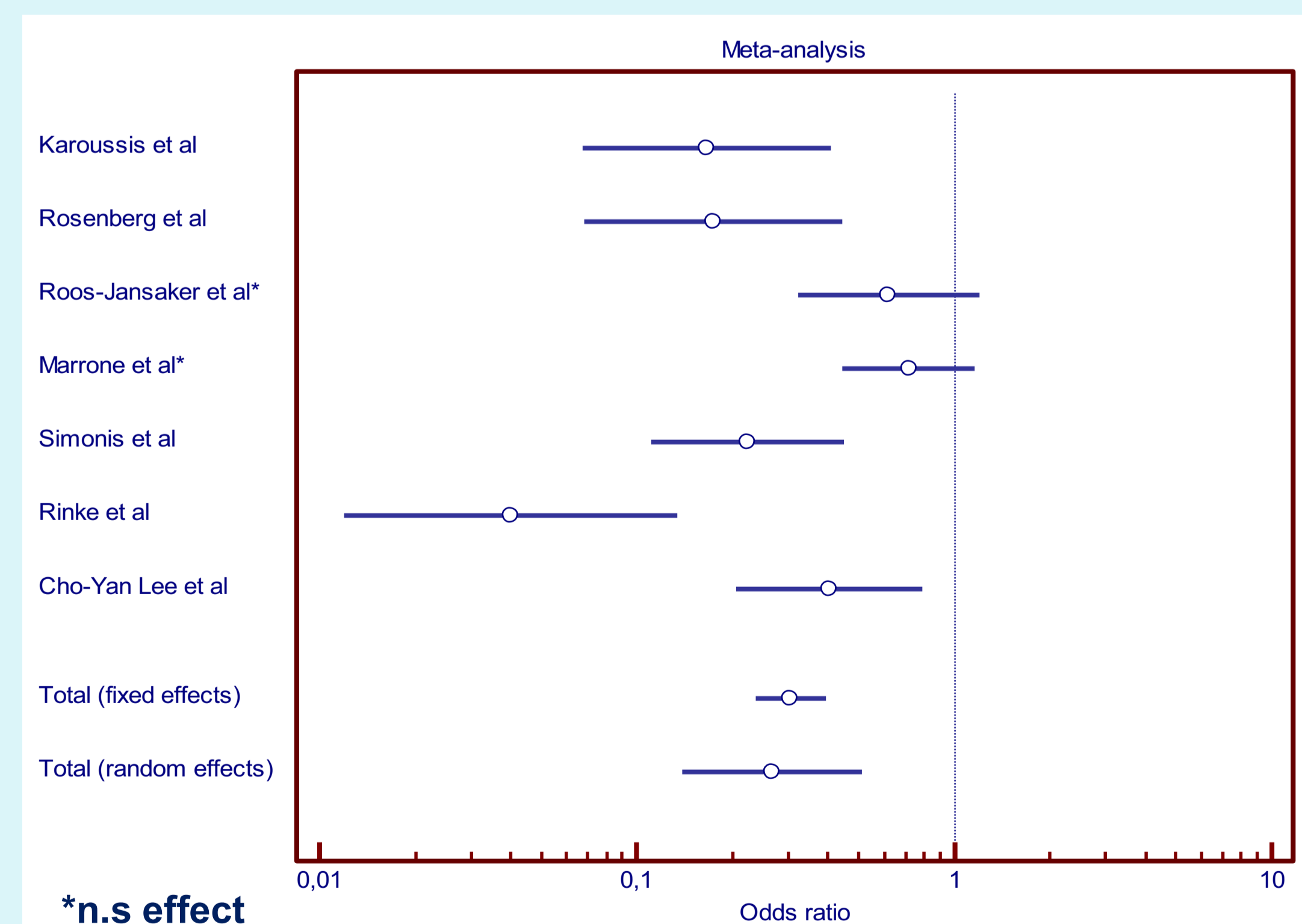
Implant survival in chronic periodontitis and non-periodontitis patients (%)



Prevalence of peri-implantitis in chronic periodontitis and non-periodontitis patients (%)



Forest plot of odds ratio (95%) for implant survival



Forest plot of odds ratio (95%) for peri-implantitis

Conclusions

This evidence-based analysis has not found the difference in dental implant survival rates for periodontally compromised and healthy patients. However, the prevalence of peri-implantitis was found to be statistically significantly related to the history of past periodontitis. Patients with a history of periodontitis should be informed that they are at higher risk for peri-implant diseases. Adequate infection control before implant placement and importance of supportive periodontal treatment have to be highlighted to the patients with a history of periodontitis.

