

# Does chlorhexidine reduce bacteremia following tooth extraction?. Systematic Review and Meta-analysis Version 4

Iciar Arteagoitia

## Abstract

Data sources: Pubmed, Cochrane, Web of Science, Science Direct, Scopus, and Ovid MD. Searched until 30th April 2017. (chlorhexidine) AND (bacteremia OR bacteraemia) AND (extraction OR removal) were used as key words in a free-text search. Meeting Abstracts published were searched. References of each article were reviewed. We only included randomized controlled clinical trials. There were no restrictions regarding language or date of publication. The outcome measure was set on the incidence of the bacteremia measure within the first ten minutes post-extraction. Two reviewers independently undertook the risk of bias assessment and data extraction. A fixed-effect inverse variance weighted meta-analysis was conducted.

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## Protocol

### Step 1.

- Data sources: Pubmed, Cochrane, Web of Science, Science Direct, Scopus, and Ovid MD. Searched until 30th April 2017. (chlorhexidine) AND (bacteremia OR bacteraemia) AND (extraction OR removal) were used as key words in a free-text search. Meeting Abstracts published were searched. References of each article were reviewed. We only included randomized controlled clinical trials. There were no restrictions regarding language or date of publication. The outcome measure was set on the incidence of the bacteremia measure within the first ten minutes post-extraction. Two reviewers independently undertook the risk of bias assessment and data extraction.

Out of 18 studies, eight eligible trials (with 523 participants were selected, 267 in the experimental group and 256 in the control group)

study	date	a1	n1	a0	n0
Rechmann 1989	01/07/1989	14	17	10	16
Lockhart 1996	01/07/1996	31	37	31	33
Tomas 2007	01/07/2007	42	53	51	53
Tuna 2012	01/07/2012	3	12	4	10
Maharaj 2012	01/07/2012	16	40	14	40

Duvall 2013	01/07/2013	6	10	5	10
Ugwumba 2014	01/07/2014	8	48	14	42
Barbosa 2015	01/07/2015	25	50	27	52

The following data were extracted for each study included in the meta-analysis: primary author, year of publication, location, recruitment period, number of patients randomized to each study group, details of the surgical procedure and the randomization method, time of collection of blood samples for culture, antiseptic used (including the concentration and dosage form) and the regimen ((dose and guideline),of administration of the antiseptic in each study group, the most bacteria most often identified in the cultures, the incidence of bacteremia according to the time of assessment and the bacteremia data selected for our meta-analysis. Details about adverse reactions, exclusions, withdrawals and losses were also recorded.

A fixed-effect inverse variance weighted meta-analysis was conducted.

Risk ratio= 0.882 (95% confidence interval 0.799 to 0.975;  $p= 0.014$ ), heterogeneity  $I^2=13.07\%$ , and  $p=0.33$ . The number needed to treat was 16 (95%

## Step 2.