

A Meta-Analysis Of Treatments For Burning Mouth Syndrome

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Background

Burning mouth syndrome (BMS) is characterized by burning of the oral mucosa in the absence of underlying dental or medical causes. The results of previous systematic reviews have generally been equivocal. However, findings for most interventions are based on searches of 5-10 years ago and do not include meta-analyses. This study therefore updates previous searches of randomised controlled trials (RCTs) for pain as assessed by Visual Analogue Scales (VAS).

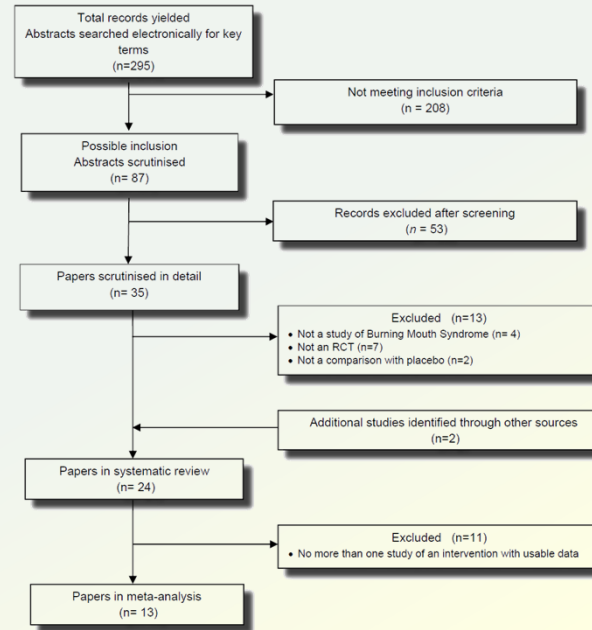
Methods

A search of MEDLINE and Embase up to 2016. Where data were available for two or more studies, they were combined in a meta-analysis.

Results

24 RCTs were identified, 13 of which (n=600) could be included in meta-analyses (Figure 1) The commonest interventions were alpha-lipoic acid (ALA) (8 comparisons), capsaicin, clonazepam (3 comparisons each) and psychotherapy (2 comparisons). ALA led to significant improvements in VAS (Risk Ratio (RR)=2.25; 95%CI=1.04-4.88; n=392; p=0.04) (Figure 2) while capsaicin significantly reduced pain at up to two months follow-up (standardised mean difference (SMD)=-0.60; 95%CI=-1.17 to -0.03; n=78; p=0.04), as did clonazepam (SMD=-1.44; 95%CI=-2.06 to -0.81; n=131; p<0.001) (Figure 3). However, capsaicin led to prominent dyspepsia. No significant improvements were found for psychotherapy (RR=14.28; 95%CI=0.42-44.0; n=74). In individual studies, capsaicin analogues, catauma and tongue-protectors showed promise.

Figure 1: PRISMA diagram



Conclusions

ALA and capsaicin show modest benefit in the first two months. However, these conclusions are limited by short follow-up periods, high heterogeneity and low participant numbers in individual studies. For instance, Type 2 error may explain the disappointing results for psychotherapy. Further RCTs with follow-up of at least 12 months are indicated.

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Figure 2: Outcomes as measured by improvement in pain intensity

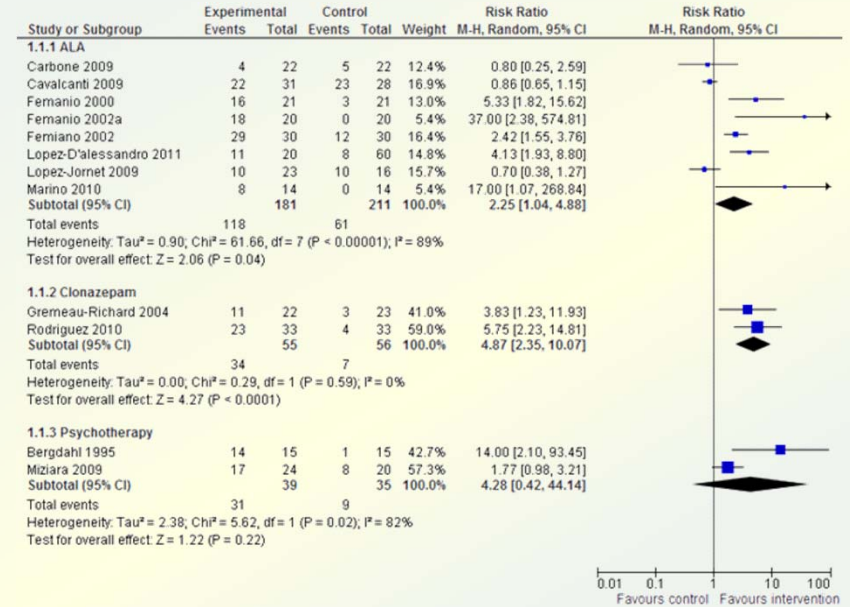
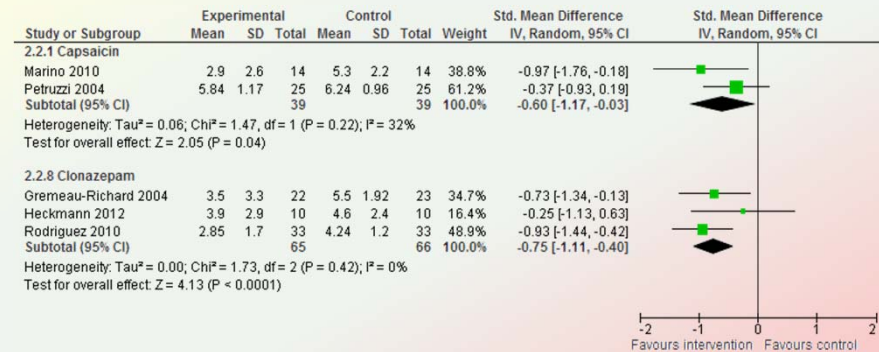


Figure 3: Outcomes as measured by reductions in mean pain intensity



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