This was a single-centre, single-blind randomised controlled trial and is, surprisingly, one of the first investigating the effect of a warm saline mouth rinse in preventing complications after dental extraction. The research question can be summarised: “In patients undergoing non-surgical extraction, does a twice daily or a six times daily warm saline rinse have any effect on the incidence of complications compared to no rinse?”

1 Background

Recommendation of a warm saline mouth rinse in the days following dental extraction is common practice in many centres, however there has been very little research on either the benefits of this or the ideal frequency of use. The use of a Chlorhexidine mouth rinse in preventing post-extraction complications (particularly alveolar osteitis) has been more extensively researched, and seems to have a beneficial effect; however this intervention is more expensive than a saline rinse and is associated with adverse events such as staining, taste disturbance and allergy.

2 Methods

2.1 Population

Participants were recruited from the Dental and Maxillofacial Surgery department of a university teaching hospital in Nigeria. Patients aged 16 and above were recruited consecutively as they were referred to the department for non-surgical extraction of any teeth. Systemically unwell patients, smokers, those taking an oral contraceptive pill, those with previous head and neck irradiation or those having had previous dental extraction were excluded. 120 participants were analysed in the results (57% male, mean age: 29 years), but it is unclear how many were recruited.

2.2 Intervention and Control

Participants were randomised to one of three groups: a six times daily warm saline rinse, a twice daily rinse or a control group who were not instructed to rinse. All participants received concomitant antibiotic therapy with Amoxicillin 500mg and Metronidazole 200mg t.d.s. 5 days.

2.3 Outcomes

The outcomes of interest were the presence of alveolar osteitis, acute inflamed socket and acute infected socket, assessed at 72h by an assessor blinded to the intervention.
3 Critical Appraisal

**Prognosis at start of study:** Participants were reported to be randomised, but the method of randomisation and masking was unreported. It was unclear whether participants were analysed on an intention to treat or per protocol basis. There were no significant differences between groups for known prognostic factors (gender, age, indication for extraction).

**Prognosis once study started:** Participants and surgeons were not masked to the treatment groups, however the investigator who assessed outcomes at 72h was. Follow up was not reported, nor was it reported if any participants received the intervention from another group or within which group these participants were analysed.

4 Results

There was a statistically significant difference between the aggregate of the two saline groups (2x daily and 6x daily) and the control group for alveolar osteitis (P=0.001), but not for acute inflamed socket (P=0.18). There were no occurrences of acute infected socket in any group. There was no statistically difference between the two saline groups for any outcome (P>0.05).

5 Conclusions

The authors conclude that a warm saline mouth rinse reduces the incidence of alveolar osteitis following non-surgical dental extraction, and that there is no difference between a six times daily or a twice daily rinse. The results do seem to suggest this, however there are several areas where bias may have been introduced; firstly the absence of blinding of participants and surgeons (which admittedly would have been difficult); secondly there was no reporting of follow-up or whether participants were analysed in their allocated groups; finally no breakdown was given for each outcome within the two saline groups, and only the aggregate was compared to control in the statistical analysis.