Effect of Toothbrushing with Dentifrice Contains Thiocyanate Ions against Ratio of Methyl Mercaptan (CH₃SH) and Organoleptic Scores in 24 Hours (Randomized-double blind-parallel-designed clinical trial)

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Oral cavity has natural protection agent which is named saliva. Saliva is one of major factor to stay away from various oral diseases including oral malodor or halitosis. Halitosis can be caused by bacterial activity. **Aim:** To analyze the effect of brushing teeth using dentifrice contains lactoperoxide-H₂O₂-thiocyanate ions against ratio of methyl mercaptan and organoleptic scores.

**Method:** This parallel design clinical trial with nine subjects were divided into two groups using double blind method which are control and experimental group. The experimental groups had to brush their teeth with experimental dentifrice that contains lactoperoxide-H₂O₂-thiocyanate ions, meanwhile the control groups had to brush their teeth with dentifrice that not contains lactoperoxide-H₂O₂-thiocyanate ions. Then, the thiocyanate ions level, VSC level, and organoleptic scores of those two groups will be measured, the VSC level was measured using gas chromatography to observe the ratio of methyl mercaptan.

**Result:** Before using the experiment dentifrice, there was significant differences of organoleptic scores and ratio of methyl mercaptan (CH₃SH) on natural history (p<0.05). After 24 hours post experiment there was no significant differences of thiocyanate ions level on both groups before and after treatment. Although, there was significant differences of organoleptic scores between control and experiment groups and there was significant differences of ratio of methyl mercaptan (CH₃SH) on experiment groups before and after treatment (p<0.05)

**Conclusion:** On this study, the effect of brushing teeth using dentifrice contains lactoperoxide-H₂O₂-thiocyanate ions had been proven effective on reducing ratio of methyl mercaptan (CH₃SH).

**Key word:** Halitosis, VSC, toothbrushing, thiocyanate ions