

Effect of Herbal Mouthwash and Chlorhexidine Mouthwash on Antiplaque

Anek Chayasodom^{1*}, Kunchorn Kerdmanee¹, Metinee Sathawong², Sukanya Juntha², Sasipa Tossanaitada², Wanwisa Wadcharasontornpong² and Kamonchanok Tangsapsathit²

¹Lecturer in Doctor of Dental Surgery (DDS) Faculty of Dental Medicine,
Rangsit University, Pathum Thani 12000, Thailand

²Undergraduate students in Doctor of Dental Surgery (DDS) Faculty of Dental Medicine, Rangsit University,
Pathum Thani 12000, Thailand

*Corresponding author, E mail: iamanek@gmail.com

Abstract

Gingivitis was one of the manifestations of an early sign of gum disease occurring once the plaque accumulation found between teeth and gum and this was one of problems remaining in people of all ages. According to a survey of oral health in Thai population by the Ministry of Public Health of Thailand 2014, they said that the prevalence of 15 years old children who develop gingivitis accounted for 53.6 percent. When it came to prevention, gingivitis could be prevented by appropriate mechanical and chemical plaque control. However, a number of studies report that only mechanical plaque control could eliminate plaque ranging from 40 to 50 percent. Therefore, applying both methods could be more effective. Based on several clinical trials, 0.12% chlorhexidine mouthwash was the most widely used over the counter product and being a gold standard mouthwash. The previous study showed that chlorhexidine was effective for antiplaque. However, it also had several side effects in the long term use. Herbs had been widely used in daily products and dentistry as well, as there were many herb supplement products which might cause fewer side effects. This study was aimed to compare the effectiveness of herbal and chlorhexidine mouthwash on antiplaque. Thirty qualified subjects were selected from inclusion criteria. They were assigned to both mouthwashes; Herbal mouthwash and 0.12% chlorhexidine (C-20). Also a dental prophylaxis program was previously provided. Plaque index (PI) were measured in pre-intervention and post-intervention statistical analysis by paired t-test. Additionally, Wilcoxon signed rank test analyzed the pre-intervention and post-intervention between group. Using herbal mouthwash and 0.12% chlorhexidine (C-20) could reduce plaque accumulation statistically significance while the difference between their effects is not statistically significance. In conclusion, the antiplaque effect of herbal mouthwash could be compared to chlorhexidine mouthwash. (p-value > 0.05).

Keywords: antiplaque, herbal, chlorhexidine, mouthwash

1. Introduction

Gingivitis and periodontitis are the two major forms of inflammatory diseases affecting the periodontium. Their etiology is bacterial plaque leading to the destruction of the gingival tissues and periodontal attachment apparatus. The primary therapy aims to eliminate etiologic factors to reduce inflammation. Nowadays, mechanical plaque control and chemical plaque control are two methods that can eliminate the etiologic factors. The mechanical plaque control is the most effective method to reduce the dental plaque but there are a lot of studies showed that tooth brushing only remove about 40 percent to 50 percent of all plaques. Furthermore, mechanical plaque control requires an active cooperation of the patients. Several studies revealed that there was no single oral hygiene method suitable for all patients due to differences in the morphology of the dentition, oral health and the individual's skill. Another way to reduce the dental plaque is chemical plaque control which has property to decreased plaque accumulation. Chemical plaque control is mostly used in dentistry such as chlorhexidine mouthwash which is considered as a gold standard for a plaque control agent. Chlorhexidine has been clinically used as a broad spectrum antiseptic because it is effective against both Gram-positive and Gram-negative bacteria including aerobes, anaerobes, yeasts and fungi. (Eley, 1999) However, chlorhexidine also has certain side effects such as an unpleasant taste, alters taste sensation and produced brown staining on the teeth which are very difficult to remove. Natural or herbal mouthwash, on the other hand, was introduced as a mouth rinse for prevention of plaque. Herbal mouthwashes are reported on the antimicrobial effectiveness against microorganisms with anti-inflammatory effect that was shown to reduce gingival inflammation in an experimental gingivitis