Abstract: Abstract:
Introduction and Aim: Mouthwash is used to complete the process of mechanical plaque removal. Chlorhexidine is the most common mouthwash that we can compare the effects of new products with it as a gold standard. Garlic is a strong antimicrobial agent and acts as an inhibitor on both gram-positive and gram-negative bacteria. The present study was conducted to compare the effect garlic extract and chlorhexidine mouthwash on oral pathogens.

Materials and methods: Fresh garlic bulbs were used to separate the antibacterial extract. The yellow extract was separated from scum by Watman filter paper. After filtration, the substances were freeze-dried and stored at 4°C until use. The bacteria that were tested: Streptococcus mutans, Streptococcus sanguis, Streptococcus salivarius, and Lactobacillus casei. After cultivating the bacteria, minimal inhibitory concentration (MIC) of garlic extract and chlorhexidine were measured by E-test method, then minimal bactericidal concentration (MBC) of chlorhexidine and garlic extract were measured by tube test.

Results: The least MIC of garlic extract for Streptococcus mutans was 0.25 µg/mL and the most was for Lactobacillus casei 2.5 µg/mL. The MIC of chlorhexidine for these two bacterial were 0.62 and 5 µg/mL respectively. The MBC of chlorhexidine and garlic for Streptococcus mutans was 0.35 and 0.35 µg/mL respectively. The highest MBC of chlorhexidine was for Streptococcus salivarius 10 µg/mL. The MBC of garlic for Streptococcus sanguis also was 10.4 µg/mL.

Conclusion: The efficacy of garlic extract was more than chlorhexidine against target bacteria and can be used as a new mouthwash but its side effects must be investigated.

Significance and impact of the study: Garlic is an edible plant that consume by humans. Munching of garlic bulbs can kill all pathogens.

Keyword: garlic extract, oral pathogens, mouthwash.

Presentation: Poster