

# Comparison of the Antibacterial Effects of Persica<sup>®</sup>, Chlorhexidine Gluconate and Normal saline Mouthwashes in ICU

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## Abstract

**Introduction** : Oropharyngeal colonization of bacteria is an important risk factor for Ventilator Associated pneumonia. Use of mouthwashes is a way of preventing oropharyngeal colonization. Among the oral rinses, chlorhexidine is considered as the gold standard, but it causes a variety of complications. The purpose of this study was to determine and compare anti-bacterial effects of the chlorhexidine gluconate 0.2%, herbal mouthwash of persica <sup>®</sup>( *Miswak Extract*) and normal saline in intensive care unit patients.

**Material and method** : In this double blind randomized clinical trial, 60 patients who were admitted in ICU were divided into three equal groups. Chlorhexidine gluconate 0.2% mouthwash was used for the first group, Persica for second group and normal saline for third group. In order to culturing of Staphylococcus aureus and Streptococcus pneumoniae, salivary samples were obtained without any stimulation Just before and again after 6 min of oral rinsing. The data were processed in SPSS17 software and analyzed by appropriate statistical tests

**Results**: Decrease of the number of bacterial colonies in samples after oral rinsing was significant in Three groups (P<0.001). Persica <sup>®</sup> and chlorhexidine Mouthwashes showed significant antibacterial effects against Streptococcus pneumoniae (p<0/001 , p<0/001) and Staphylococcus aureus (P=0/008 , p<0/001).

**Conclusion**: The herbal mouthwash of Persica <sup>®</sup> had significant antibacterial effects against Staphylococcus aureus and Streptococcus pneumoniae, and it's effect on Streptococcus pneumoniae had no significant difference with chlorhexidine, so after further investigation, it would be considered as an alternative for chlorhexidine in ICUs.

**Key words**: Mouthwash , Antibacterial , Chlorhexidine , Persica , Normal saline