

## Antibacterial Activity of Clove and Gall Nut Methanolic and Ethanolic Extracts onto *S. Mutans* PTCC 1683 and *S. Salivarius* PTCC 1448

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**Background & Objectives:** Antimicrobial compounds with herbal sources have many therapeutic potential. In this study, the antibacterial effects of clove and gall nut methanolic and ethanolic extractions were evaluated onto *S. mutans* PTCC 1683 and *S. salivarius* PTCC 1448, two cause oral disease.

**Methods:** The clove and gall nut methanolic and ethanolic extracts were prepared and antibacterial activity was evaluated onto *S. mutans* and *S. salivarius* in the base of inhibition zone diameter using agar diffusion Methods. In this part minimum inhibitory concentration (MIC) and minimal bactericidal concentration were assessed.

**Results:** These extracts have good antibacterial activity on bacteria were studied. Methanolic extract of clove had antibacterial activity more than ethanolic extract, and ethanolic extracts of gall nut had antibacterial activity more than methanolic extracts. MIC and MBC results for clove methanolic extract were 1.5 mg/ml and 3mg/ml for *S. mutans* and 6.25 mg/ml and 12.5 mg/ml for *S. salivarius*, respectively. These results for clove ethanolic extracts were 12.5 mg/ml and 25 mg/ml for *S. mutans* and 25 mg/ml and 50mg/ml for *S. salivarius*, respectively. MIC and MBC results for gall nut methanolic extract were 25 mg/ml and 50 mg/ml for *S. mutans* and 12.5 mg/ml and 25 mg/ml for *S. salivarius*, respectively. These results for gall nut ethanolic extracts were 3.1 mg/ml and 6.2 mg/ml for *S. mutans* and 25 mg/ml and 50mg/ml for *S. salivarius*, respectively.

**Conclusion:** The results were showed effective antibacterial activity using clove and gall nut methanolic extracts. If other properties such as tolerance of tissue to be studied in the next investigations, these extracts can be used as a mouthwash.

**Keywords:** *S. mutans*; *S. salivarius*; Clove and Gall Nut Extracts