

## **Title : Evaluation Of Aqueous And Ethanolic Extracts Of Syzygium Caryophyllatum For Antibacterial Activities**

### **Abstract**

**Objective:** It has been well documented that traditional medicinal plants confer considerable antimicrobial activity against various microorganisms.

**Methods:** The present study was designed to evaluate the antimicrobial properties of aqueous and ethanolic extracts of the leaves of *Syzygium caryophyllatum* against *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhi*, *Shigella flexneri*, and *Vibrio cholerae*. The aqueous extract was prepared using cold percolation method, and ethanolic extract was prepared in Soxhlet apparatus using ethyl alcohol. Antimicrobial activity is being determined by time-kill assay and minimum inhibitory concentration.

**Results:** From our study, it is found that all tested organisms were sensitive to both aqueous and ethanolic extract of leaves of *S. caryophyllatum*. The ethanolic extract showed better antibacterial activity against *S. aureus* and *S. typhi* when compare to aqueous extract. The phytochemical analysis confirmed the presence of flavonoids, alkaloids, glycosides, steroids, phenols, tannins, and saponins in the ethanolic and aqueous extract of *S. caryophyllatum*.

**Conclusion:** We hypothesize that these active phytoconstituent might be responsible for the antimicrobial activity of this plant.

**Keywords:**

*Syzygium caryophyllatum*, Antimicrobial property, Time-kill assay, Minimum inhibitory concentration

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