

The Antibacterial Effect of Ethanolic and Methanolic Extract of *Nigella Sativa*

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Structured Abstract

Background: The black cumin seed of *Nigella sativa* is the plant that is most widely known and contributes to the medicinal properties of the plant. There are elements in the thymoquinone that support its active function. Thymoquinone contains a variety of active ingredients, including pyrazolanthrone, which inhibits the growth of cancer cells, celebrex, which acts as an anti-inflammatory, granisol, which prevents nausea and vomiting, and CDPPB, which lessens symptoms of schizophrenia. Consuming *N. sativa* seeds may help with a variety of disorders, including cancer, diabetes, inflammatory issues, many chronic illnesses, and infectious diseases caused by parasites, bacteria, fungi, and viruses. This species' seed, one of the most prized and nutrient-rich plants in history, has undergone a great deal of scientific scrutiny. The results of these investigations support the conventional wisdom regarding the seed. This initiative aims to monitor *Nigella sativa*'s antibacterial efficacy against pathogens.

Methods: Two distinct types of extraction namely methanol and ethanol extraction, to be exact, will be done in this particular experiment. The *N. sativa* plant seed will first be ground into a powder and then allowed to soak for three days in methanol and ethanol. *N. sativa* is first filtered to extract the methanol and ethanol extract, and the liquid is then concentrated using a Rotary evaporator. Both the minimum inhibitory concentration test and the minimum bactericidal concentration test will be performed in this procedure. The T-test will be used to ascertain which extraction is more successful and to find the difference in mean between each extraction when the results are obtained.

Results: The result shown that there were inhibition zone for both *Klebsiella pneumoniae* and *Salmonella typhimurium* except for *Staphylococcus aureus*. Ethanol have shown high inhibition zone compared to methanol extract of *Nigella sativa*.

Conclusion *Nigella sativa* ethanol and methanol extract have shown to be capable of inhibiting the growth of pathogenic bacteria namely *Salmonella typhimurium*, *Klebsiella pneumoniae* and *Staphylococcus aureus*.

Keywords: *Nigella sativa*, *Salmonella typhimurium*, *Klebsiella pneumoniae*, thymoquinone, inhibition zone.

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