

ANTIMICROBIAL ACTIVITY OF *Citrus limon* on *Escherichia coli* INDICATOR STRAIN

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Abstract

The purpose of this research was to evaluate antimicrobial activity of *Citrus limon* on pathogenic bacterial species *Escherichia coli*. Lemon is a citrus fruit and is an important medicinal plant of family Rutacea. It is used mainly for its alkaloids that have a large spectrum of biological activity against clinically significant bacterial strains of pharmaceutical interest. Citrus juices are greatly consumed because of their nutritional value and special flavor that are beneficial for the maintenance of good health and prevention of diseases. There is an increase in antibiotic resistance by microorganisms leading to extensive research on new effective and less expensive antimicrobials from natural sources. *E. coli* have the genetic ability to transmit and acquire resistance to drugs which are utilized as therapeutic agents and this has been intensified by the overuse and misuse of antibiotics. There is a need to find new methods that combat the resistance of microorganisms. Lemon can be used as an alternative antiseptic against *E.coli* because natural products contain complex compounds that make it difficult for the microorganism to gain resistance. This study showed the antimicrobial properties of lemon extracts. Sensitivity testing of lemon antimicrobial activity was carried out using disc diffusion method to determine zones of inhibition. Minimum inhibitory concentration of the lemon extracts was determined against *E.coli*. The study showed that lemon juice contained strong antimicrobial properties followed by ethanol extracts then water extracts. The differences between the zones of inhibition of juice and the two extracts was significant.