PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL STUDY FOR *SPINACIA OLERACEA*

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ABSTRACT

Many medicinal herbs have beneficial health effects. They have been used as flavouring agents in food and to prevent food from attack by pathogenic microorganisms.

The study investigated aqueous and alcoholic extracts of *Spinacia oleracea* against mammalian pathogens. Methanol and chloroform extracts were used. Agar disc diffusion method was used. Common mammalian bacterial stains assayed for antimicrobial activity were *Staphylococci aureus, Salmonella typhi, Pseudomonas aeruginosa* and *E.coli.* Antifungal activity was studied using *Candida albicans.*

Muller Hinton agar and Sabourad dextrose agar were the culture media used. Following overnight incubation, the cultures were observed for areas of no growth. This is also known as zone of inhibition. This was done by measuring the radius of inhibition zone from the edge of the disc to the edge of the zone. The end point of inhibition is where growth starts.

The study revealed that methanol extract inhibited more microorganisms. The microorganisms inhibited were *Staphylococci aureus, E.coli,* and *Candida albicans.* Methanol extract had minimal activity against *Pseudomonas aeruginosa* and *salmonella typhi.* Chloroform extract had very little activity , almost zero inhibition.

Phytochemical screening was also conducted on *Spinacia oleracea.* Different tests were done including tests for tannins, flavonoids, alkaloids, saponins and sterols. The study revealed that spinacia oleracea contains phytochemicals.There was presence of tannins, saponins, flavonoids, sterols and alkaloids.

It is therefore evident that *Spinacia oleracea* is a potent antimicrobial agent and can be used as both food and medicine.