PHYTOCHEMICAL SCREENING AND ANTIBACTERIAL STUDIES IN SOLANUM CAPSICOIDES ALL.

UGC MINOR RESEARCH PROJECT

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SUMMARY OF THE PROJECT

Phytochemical screening and antibacterial analysis of *Solanum capsicoides* All. of the family Solanaceae showed that this particular plant contains a wide variety of phytochemicals and it was an effective anti bacterial agent.

Detailed morphological,anatomical and pharmacological analysis on this plant were conducted .Solanum capsicoides resembles with many of the Solanaceae members in its morphology. There is evidence to suggest that *S. capsicoides* was introduced into a number of countries for ornamental purposes during the nineteenth century. The colour of the ripened fruit, trichome studies and stomatal types were some of the morphological characters helpful for the easy identification of this particular plant. In anatomy it resembles most of the Solanaceae members with typical bicollateral vascular bundles in the stem. The colour of the ripened fruit bright orange can be used as an easy marker for the identification of the plant in wild. The pharmacological analysis like powder analysis, ash value, extraction values and the treatment of powder with different chemical reagents may function as a standard for the analysis of the market sample which may prevent the adulteration of the crude drug.

The Phytochemical analysis was conducted in detail with the fruit and shoot powders were used for extraction using five different kinds of solvents. The study points to the fact that the shoot and fruit of Solanum capsicoides was rich in the presence of wide variety of phytochemicals. The antioxidant analysis was conducted as a part of phytochemical analysis and it was confirmed that the fruit extract of *Solanum capsicoides* was a novel anti oxidant agent which had comparable activity as that of the standard.

Antibacterial activity of the fruit and shoot extract of *Solanum capsicoides* were conducted against different pathogenic bacteria. The fruit

extract was found to be effective against *Staphylococcus aureus, Salmonella paratyphi, Enterobactor, Psuedomonas, Bacillus cereus, Streptococcus, Psuedomonas* and *Salmonella paratyphi.* The methanol extract of leaf was effective against *Salmonella paratyphi, Pseudomonas sp., E. coli.*

So the present study confirms that the *Solanum capsicoides* is a promising medicinal plant with different phytochemicals and have anti- oxidant and antibacterial properties.