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RESEARCH ARTICLE

ANTIBACTERIAL ACTIVITY OF LEAF EXTRACTS OF SOME HERBS AGAINST SOME CLINICAL ISOLATES

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ABSTRACT

The antibacterial activity of leaf extract of Chrozophora rottleri, Oxalis corniculata, Parthenium hysterophorus and Solanium xanthocarpum were evaluated in-vitro against some clinical isolates by agar-well diffusion method. Two solvents chloroform and methanol were used for extraction of bioactive compound from fresh leaves. Antimicrobial potential of leaf extract was determined by measuring the zone of inhibition. It was concluded from the results that both chloroform as well as methanol extracts of leaf of tested herbs were quite effective in inhibiting the growth of clinical isolates. Result also revealed that methanol extract has more antibacterial potential than chloroform extract. Methanol extract of Chrozophora rottleri and Oxalis corniculata has very good antibacterial potential against all the clinical isolate. Therefore, the leaf extracts of this plant can be selected for further investigation to determine their therapeutic potential.

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INTRODUCTION

Majority of the world population depend mainly on various plants for health related problem. It has been estimated that plant drug constitute about 80 % in developing countries like India. In India thousands of species are known to have medicinal value and the use of various parts of medicinal plants to cure disease since ancient times. Plants have variety and huge source of photochemical with proven potential of treating communicable infection with lesser side effects compared to the chemotherapeutic agents. Recently much attention has been paid to biologically active compounds from plants used in the alternative medicine. Antimicrobial compounds of plant origin have tremendous therapeutic potential. There have been lots of intensive studies on antimicrobial activity of plant extracts in last decade. In past few years, it has been increasingly reported by several scholars. (Nair and Chanda S. 2007; Bharath, G. and Farzin, 2011; Iyer, *et al.*, 2011) Extraction and phytochemical screening of various plant parts shows antibacterial, antifungal and antioxidant activity (Venkata & *et al.*, 2010; Prashant Tiwari & *et al.*, 2011; Vaghasiya, and *et al.*, 2011). There was a very high rate of infectious diseases in the developing countries like India.

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Pathogens frequently developed resistance to many chemotherapeutic agents and created problems in the treatment of infectious diseases. Because of inadequate availability and high cost of new generation antibiotics, scientists are forced to search for new alternatives i.e. new safer, cheaper therapeutic compound. There is a special need to search and develop new therapeutic agents to combat resistant and emerging pathogens. The main aim of the present study was to evaluate and determine the antibacterial potential leaf extracts of *Chrozophora rottleri, Oxalis corniculata, Parthenium hysterophorus* and *Solanium xanthocarpum* against some clinical isolates.

Chrozophora rottleri locally known as Suryavarti belongs to Euphorbiaceae. It is an annual common waste lands, erect herb with silvery hairs, occurs naturally throughout India. Oxalis corniculata locally known as creeping wood sorrel belongs to Oxalidaceae. It is a one of the most versatile medicinal plants having a wide spectrum of biological activity. It is annual creeping herbs with tiny flowers. Parthenium hysterophorus locally known as carrot grass belongs to Asteraceae. It is an aggressive ubiquitous annual weed. This erect herb also known for its dense growth. All these plant species were possessing useful medicinal properties. In addition, Dipankar C. *et al.*, 2011; Patel Seema, 2011; Meruga Srikanth *et al.*, 2012; Shelly Rana *et al.*, 2016 reported, a good source of phytochemical and antibacterial potential. Considering this facts & figures, it can be claimed that these plants are the valuable sources for new