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Preliminary phytochemical screening of crude methanolic extract of some ethnomedicinal plants used by *Muthuvan* tribe from *Kulachuvayal* tribal colony, Kanthalloor, Idukki district of Kerala, India

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Abstract

Antibacterial activity and phytochemical screening of crude methanolic extract of selected ethnomedicinal plants from Kerala was examined. The plants studied were *Atlantia monophylla*, *Cymbopogon flexuosus*, *Datura stramonium*, *Melia dubia*, *Ruta graveolens*, *Solanum villosum*, *Triumfetta rhomboidea* and *Vitex negundo* which are used for treating various ailments among *Muthuvan* tribe. The methanol extract of the plants were evaluated against four bacterial strains (*Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*). None of them exhibited antibacterial activity. The methanol extract of plants was subjected to qualitative phytochemical tests. The phytochemical screening of plant extract revealed the presence and absence of alkaloids, flavonoids, phenols, tannins, phyllotannins, steroids, terpenoids, carbohydrates, glycosides, saponins. Since the plant possess bioactive compounds, it is reliable to possess large number of therapeutic value and are being employed for the treatment of different ailments among the tribal community.

Keywords: Ethnomedicinal plants, phytochemical tests, *Muthuvan* tribe, Kanthalloor, soxhlet extraction, bioactive compounds

Introduction

Traditional knowledge includes tacit knowledge and practices of tribal communities and is often connected to customs of crop and animal husbandry, fisheries and human health. India abounds in traditional knowledge with its vast geographic expanse spread across different climatic regions. However, this knowledge tends to get extinct as tribal communities get more and more marginalized. The ethnomedicinal plants used for traditional medicine contain various substances that can be used to treat chronic as well as infectious diseases. The curative properties of the medicinal plants are mainly due to the presence of various chemical substances of different composition which occur as secondary metabolites [14].

Idukki district of Kerala, has wide range of forest area. There is a hamlet of '*Muthuvans*' named as *Kulachuvayal* tribal colony in Kanthalloor. Rural communities, especially *Muthuvan* tribe, depends on plant resources mainly for herbal medicines, food, forage, construction of dwellings, making household implements, sleeping mats, and for fire and shade. *Kulachuvayal* tribal colony is one such area where traditional healing systems are still popular among the local people. But so far, few ethnobotanical surveys have been made in this area to know the plants used by the tribes, '*Muthuvan*' who have been inhabited in *Kulachuvayal* colony. The active principles of many drugs found in plants are secondary metabolites [7]. Therefore basic phytochemical screening is vital. This paper deals with an attempt to gather information on some traditional uses of medicinal plants as well as their antibacterial activity and phytochemical screening.

Materials and Methods

Plant materials collection

Plants for the present study were collected on the basis of their medicinal use. Fresh plants were collected from the *Kulachuvayal* tribal colony in Kanthalloor, Kerala. The ethnobotanical data such as, local name, mode of preparation and medicinal uses were collected through discussions among the tribals in their local language (Tamil).

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