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Phytochemical Screening of three selected Herbs used by Tribes of Nilagiri District for a Potent Drug Discovery

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Abstract: Nilagiri district is known for rich flora and fauna due to its salubrious weather .Tribes like kurumba, Thoda, Baduga and Kattu naickens have their respective tribal healers regularly practice native medicine to heal the tribes. In the present study tribal healers were discussed to reveal commonly used herbs for various ailments .Hence as a basic screening it has been planned to investigate the basic bioactive compounds present in three selected herbs such as *Adhathoda vasica, Jatropha curcas and Solanum nigrum* using various solvents such as Methanol, Ethyl acetate and water .The study indicates from the results that tannins were observed in *Adhathoda vasica* and *Jatropha curcas* in water solvent whereas in *Solanum nigrum* tannins were observed in methanol extract. Regarding cardiac glycosides it is very well observed in methanol and water solvents whereas flavinoids were observed in all the selected herbs In connection with other bioactive compounds such as Terpenoids, Saponins, Phlobotannins and Steroids are seen in selected solvernts.. Since all the selected plants showed potent bioactive compounds like tannin, flavinoids and cardiac glycosides in considerably quantity encourage the further researchers to probe the available compounds through advanced study followed by preclinical screening and clinical study to bring it as a potent drug. Hence such types of basic screening provide platform for young researchers to screen the unexplored potent tribal herbs by providing scientific authentication.

Introduction

Nilagiri District harbouring indigenous and Exotic flora of excellent therapeutic potential and becomes a vital place for medical ethno-botanical studies. In all ages and civilizations man's continuous search for curative plants to treat common diseases is well- chronicled. Due to the concerted efforts made by the early man to treat ailments in his own environment employing folk-beliefs and traditional herbal practices. The knowledge on indigenous plants and its uses can be vital for health development workers as well as for the local population ¹.Pharmacognistic and pharmacological screening most these plants have been completely explored. Whereas certain rare plants practiced among the tribal source are yet to be screened. Hence the present research has been planned to screen the phytochemical studies on three commonly used tribal plants..

Materials and Methods

Plant Collection & Storage

Through tribal healers of various tribal communities will be discussed to select the three potent plants in practice among the tribal communities to cure liver cancer. The plant materials of the species such as *Adhathoda vasica, Jatropha curcas* and *Solanum nigrum* free from pathogens and pest are collected from the Nilgiri District of, Tamilnadu. The selected plants are safely removed without physical damage to the plant from the soil which is identified by Taxonomist. Leaves of the selected plants are washed with tap water, rinsed with distilled water and shade dried. After proper drying the plant material is grounded to obtain coarse particle at room temperature. Extracts were filtered through the filter paper. The filtered extracts were concentrated at 50°C using a rotary evaporator to give the crude extracts of each plant. The crude extracts are weighed and stored in sealed vials to further investigation²⁻⁴.

Phytochemical Analyses

The processed crude extract is used for various tests [using standard procedure]. Preliminary phytochemical examination of these plant extracts were analyzed byqualitative and quantitative method⁵. The detected phytoconstituents from the extracts of plant materials are tabulated and Quantitative method refers to following standard procedure. Screening for the spectrum of natural compounds occurring in the above three plants was carried out following the methods².

Results

The phytochemical analysis of three selected plants extracts had showed the presence of phytocompounds. All three plants showed the presence of tannins and Flavanoids indifferent solvents. Terpenoids were observed only in *Jatropha curcas* whereas other two plants has not evidenced the presence of terpenoids. Regarding cardiac glycosides it is significantly observed in all solvent extraction indicating its strong cardio protective efficacy. The herb *Solanum nigrum* showed significant quantity steroids in all solvents indicating its potential source of steroids (Table- 1)

S.N	Plant	Solvent	Tannins	Terpenoids	Saponins	Cardiac	Flavanoids	Phlobotannins	Steroids
0						glycosides			
1.	Adhath	Methanol	-	-	-	-	-	-	-
	oda	Ethyl	-	-	-	-	-	-	-
	vasica	acetate							
		Chlorofor	-	-	-	-	-	-	-
		m							
		Water	+	-	-	-	+	-	+
2.	Jatrop	Methanol	+	-	-	+	+	-	-
	ha	Ethyl	-	-	-	-	-	-	-
	curcas	acetate							
		Chlorofor	-	-	-	+	-	-	-
		m							
		Water	+	+	-	-	-	-	-
3.	Solanu	Methanol	+	-	-	-	+	-	-
	т	Ethyl	-	-	-	-	+	-	+
	nigrum	acetate							
		Chlorofor	-	-	-	-	-	-	+
		m							
		Water	-	-	-	-	-	-	+

Table 1: DeterminedQualitative methods analysis for the phytocompounds in three selected herbs ofNilagiri District.

Discussion

The results indicates that all three plants showed the presence of tannins and Flavanoids in considerable level indicates its its therapeutic property in free radical scavenging and inhibition of hydrolytic and oxidative enzymes evidence its possible use in pharmacy as a anti proliferative agent in cotrolling cancer after assertaining its pre clinical pharmacological studies.pro Pharmacological importance of Flavenoids terpenoids cardiac glycosides and steroids. Presence of terpenoid in considerable level in *Jatropha curcas* indicates its strong Like antibacterial, antineoplastic activity . *Solanum nigrum* and *Jatropha curcas* showed high concentration of cardiac glycosides evidence about its use in preparing cardio protective drug. Since two plants

such as *Solanum nigrum* and *Jatropha curcas* all potent bioactive compounds like tannin, flavinoids and cardiac glycosides in considerably quantity hence this will encourage the further researchers to probe the available compounds through advanced study followed by preclinical screening and clinical study to bring it as a potent drug Discovery ^{6.7}.

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