



INTRODUCTION



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Plants have been the source of basic requirements of food, shelter and clothes for man. In addition they also serve as medicine to cure many diseases and health problems. According to WHO population of the world population relies on herbal medicine. Almost all the plants possess medicinal properties and hence the traditional systems of medicine such as Ayurveda, Siddha, Homeopathy and Unani use plant products. Moreover in every village it is quite common to see traditional healers who use herbal medicine to treat the ailments of local people. Also people at home use various plant products for therapy of cough, cold and fever. As far as modern medicine is concerned, it involves the use of chemical compounds. These compounds are known as lead compounds derived from plants and are responsible for the therapeutic property of any medicine. Identification of various lead compounds requires screening of medicinal plants. In this context pharmaceutical companies depend on the traditional knowledge of local people or the trials.

Plants have been used in Indian traditional systems of medicine for various diseases like malaria, dysentery, skin diseases, bronchial asthma, cold, cough, convulsions, diabetes, arthritis, emesis, insect bites and also in various gastric, hepatic, cardiovascular and immunological disorders (Khorra *et al.*, 2007).

Phytochemicals are generally referred to chemicals which may affect the health of a person. Although still not established as essential nutrients (Deo *et al.*, 2007). Phytochemical groups which have been identified in plants are anthocyanins, carotenoids, flavonoids and tannins, ellagic acid and tryptanthrin, berberine, beridane *et al.*, alkaloids, saponins, monoterpenes and phenolic acids (Deo *et al.*, 2007). Dhalla *et al.*, 2007; Panda *et al.*, 2007. More than 1000 phytochemicals have been listed according to its physical, chemical characteristics and protective function (Cancer Research and Deo *et al.*, 2007).

Naturally occurring polyphenolic compounds are known as tannins which are widely spread amongst terrestrial and marine plants (Aslam, Aterman and Kole). Tannins present in vegetables are subdivided into condensed and hydrolysable compounds and are secondary plant metabolites. Condensed tannins are polymeric flavonoids whereas gallic and chlorogenic acids are hydrolysable tannins which are easily hydrolysed in acidic media (An et al.).

The largest group of phenolic compounds are flavonoids and they contain a wide range of chemical and biological activities such as antioxidant and free radical scavenging properties (Ahonen et al.).

The cost of medicines is high in developing countries hence investigations on the antimicrobial activity of ethnomedicinal plants may be very useful. This has been the basis for researchers to study medicinal plants for developing best medicines for physiological uses (Suman and Saini). Further indiscriminate use of antimicrobials for treating infectious diseases has resulted in the microorganisms developing resistance to the antibiotics (Khan). This has resulted in the requirement for development of alternative antimicrobials for the resistant microorganisms. This has led to the screening of local medicinal plants which are rich sources for novel antimicrobials. The tremendous knowledge of plants possessed by the tribals is the basis of pharmaceutical research.

Tribals are ethnic groups living in remote forest areas and are closely associated with plants. They depend on the forest for supply of food, fuel, building materials, tools, basketry etc. and medicinal plants for the treatment of various diseases (Khan). There are many tribal communities in India (Kala). Ethnobotanical investigation is a source for drug discovery through indigenous knowledge which helps to understand the medicinal uses of plants because most of the traditional knowledge about plants is fast declining due to urbanisation and changing lifestyle. Moreover this traditional knowledge of tribals are verbally passed on to successive generations and are not documented. Documentation of ethnic knowledge is important for the conservation and sustained utilisation of biological resources.

Comparison of ethnic knowledge among people living in different geographical areas and their use of natural forest products for their daily life can relate the people in an ecological manner. The lifestyle of each tribal group differs from that of the other in culture, language and environment which harbor diverse plant resources. They influence the adoption and usage of certain plant species and also specific cultural sensitivity towards them. The resources utilized by these tribal groups create the reliability and potentiality of a plant species. This clearly indicates that the practice of using plants provides perception into multi-potential medicinal properties of such taxa like Amla and Andhra.

The tribal knowledge of medicinal plants is due to the fact that edible medicinal and other wild plants are important life sustaining sources. Change in lifestyle and influence of markets has led to the decrease in knowledge about the importance of traditional methods. Hence measures should be taken to ensure that the traditional knowledge is well documented and creating awareness among tribals with the help of ethnobotanists so that the future generations may be benefited.

Keeping in the above facts in mind the present research work was carried out to compare the ethnobotanical and phytochemical analysis on medicinal plants used by the Amla tribes inhabiting the Amla forest of Karnataka and Amla tribes living in Amlalai forest of Tamil Nadu. It was found that the tribals had varied knowledge about the surrounding biodiversity and also the importance of the same.

Objectives

- To document the medicinal uses of the plants which are used by the Amla tribes inhabiting the Amla forest of Karnataka and Amla tribes living in Amlalai forest of Tamil Nadu.
- To analyse the information consensus factor and its value to determine the homogeneity of information on medicinal plants which are good for different ailments and also the preferred plant species for treating each ailment category in their respective study areas.

- To estimate the phytochemical constituents of the selected medicinal plant *Cissus quadrangularis*, which belongs to Vitaceae family and used by both the tribes
- To estimate the therapeutic properties (antioxidant, antidiabetic, anti-inflammatory, antimicrobial and antihaemolytic) activity of methanolic extracts of the roots of *Cissus quadrangularis*