



**CONCLUSION**



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The majority of medicinal plants available in both the study sites of Waghai forest area and Talamalai forest area are cultivated. Moreover, these plants not only serve as medicine to the local people but also a source of income, by selling them in raw form in the nearest market. The harvesting of such plants is generally unsustainable because the harvesting techniques are poor, rudimentary, wasteful and destructive in nature. For example, in order to obtain roots, the local people generally uproot the whole plant unselectively and haphazardly to obtain the maximum harvest to earn money. Thus, in order to protect plants and indigenous knowledge there is still a need for more documentation, identification of important medicinal plants in the region, development of proper harvesting techniques, cultivation of potential plant species, community participatory management and awareness programs in the study areas.

It should never be forgotten that the first beneficiaries of ethnobotanical studies should be the repositories themselves of such knowledge. As researchers and scientists we should be mere collectors of ethnobotanical data and we should be elaborating written material and giving lectures in training courses to diffuse all this knowledge among the inhabitants of the area studied. With this, the scientific inventory will gain value within the local communities.

The findings of ethnomedicinal study may become the basic leads for chemical, pharmacological, clinical and biochemical investigations, which may ultimately result in drug discovery. Therefore, phytochemical and pharmacological values of all these medicinally important plants should be tested.

The results obtained from the phytochemical investigation showed the rationale behind the use of *Cissus quadrangularis* as a traditional medicine. This plant is not only an interesting source for antimicrobial activity but also a potential source of phenolic antioxidants. The root extracts of the plant have high potential as antimicrobial agent. The above finding provides an insight into the usage of this plant in traditional treatment of

foot infections, subcutaneous parasitic infections, intestinal parasitism, venereal diseases and other diseases associated with bacterial and fungal infections.

Simple agar assays alone are not reliable for determining the efficacy of plants used in traditional medicine. The present study however confirms that simple laboratory methods are indeed well suited for the initial assessment of the efficacy of *C. quadrangularis* in inhibiting the bacterial and fungal growth. It is also stated that plants traditionally used as antimicrobials do have a much higher incidence of efficacy than other medicinally used species, and that plants used for cleansing baths are more likely to have antimicrobial properties than other species used for ritual purposes and this can be verified. It also needs to be taken into account that many plants are usually traditionally prepared in complex mixtures, and single species are rarely applied. An appropriate analysis of these mixtures, as well as assays, to evaluate the toxicity of single species, as well as mixtures, would be an interesting comparative study.

The results of this present research work showed that the chromatographic separation enabled the identification of a wide range of compounds present in this plant without time-consuming sample preparation or previous fractionation. Further studies are necessary to characterise the identified compounds and seek for novel species and the consequent test of their other activities. *C. quadrangularis* could be a good source of natural antioxidants. Future studies are necessary to determine *in-vivo* activity and bioavailability of the extracts so as to confirm the effectiveness of its ethno-medicinal / beneficial use.

As mentioned in the results obtained by the present investigation revealed that the methanolic extract of root of *C. quadrangularis* showed significant antioxidant, anti-inflammatory, antidiabetic, antibacterial, antifungal and anti-hemolytic activities. Thus, it was suggested that the root extract of *C. quadrangularis* may be used as an effective drug for the treatment of sickle cell disease which is a very common disease in both the study areas.

Meanwhile, overexploitation of plant species in the name of medicine may eventually lead to the disappearance of some species in future. Therefore, attention should also be made on proper exploitation and utilisation of these plants. In this connection we have to remember the following quotation.

**“It must be the duty of each human being, that they save the plants, otherwise the global environmental feature will not permit the human survival on the living planet earth”.**