Chapter VI

Summary and Conclusion
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According to the world health organization (WHO), about three-quarters of the world population rely upon traditional remedies (mainly herbs) for the health care of its people. In fact, herbs/plants are the oldest friends of mankind. They not only provided food and shelter but also served the humanity to cure different ailments. The herbal medicine also sometime called, traditional or natural medicine existed in one way or another in different cultures/civilizations, such as Egyptians, Western, Chinese, Kampo (Japan) and Greco-Arab or Unani/Tibb (South Asia).

In the last 25 years, a huge amount of work has been done on plants used in traditional medicine systems throughout the world. A small part is highly exciting, even leading to new western drugs, but the bulk is likely trivial in nature.

This situation means that traditional medicine, which is closely linked with peoples’ cultures, is not going to vanish if and when western health care becomes available. A study from Kenya showed that patients had a clear sense of which diseases they would go to a western clinic for, and when they would visit a traditional healer. In South Africa, traditional healers are flourishing in urban areas where western health care is available, thus traditional health practice is not dying out ‘when the young flock to the city and forget their culture’, as has been predicted.

The traditional medical practitioners all over the world are using lot of plants for various diseases; even they are not scientifically explored. So, in this present work an attempt was made to study the diuretic, anti-inflammatory and antimicrobial activities of the plants *Aerva lanata* and *Tribulus terrestris* and give a scientific validation to them.
In this present work the first chapter deals with the introduction about the medicinal plants and various systems of medicine in India.

The second chapter deals with the review of literature. In this the first part, Diuretics-A review, discussed on various mechanisms of diuretics and various plants used for the diuretic activity. The second and third parts are the review of *Aerva lanata* and *Tribulus terrestris*. It deals with the habitat, characteristics and the works already done in those plants.

The third chapter contains the aim and plan of work. The fourth chapter deals the materials and methods, used in this project work. The fifth chapter discusses the results obtained from the experiments carried out.

Based on the ethnopharmacology literature the aerial parts of the plants *Aerva lanata* and *Tribulus terrestris* were selected and the project work was carried out. The plant was collected from in and around Namakkal District Tamilnadu and authenticated by a botanist. The phyto constituents were extracted by using different solvents of increasing polarity like petroleum ether, chloroform, acetone ethyl acetate and ethanol by continuous hot percolation method and aqueous extract by cold maceration process using aerial parts of *Aerva lanata* and *Tribulus terrestris*.

The phytochemical constituents were identified by chemical tests and these showed the presence of various constituents like alkaloids, carbohydrates, glycosides, triterpinoids, saponins and flavonoids.

The ethanol extract showed the presence of majority of phytoconstituents. Hence, these extracts were selected for
pharmacological studies for both the plants. The LD$_{50}$ values of the above two plant extracts were determined by Karber’s method and it was found to be 2870 and 2660mg/kg, p.o. for the ethanolic extracts of *Aerva lanata* and *Tribulus terrestris*, respectively.

In the pharmacological studies, ethanolic extracts of both the plants *Aerva lanata* and *Tribulus terrestris* showed significant diuretic activity and it also produced significant anti-inflammatory activity against carrageenan induced rat paw edema and antimicrobial activities.

In the toxicological studies the selected ethanolic extract of *Aerva lanata* and *Tribulus terrestris* showed no significant changes in histopathological, haematological and biochemical parameters.

Two compounds namely Methyl 8-oxopentadecanoate and Butyl 3-phenylpropanoate were isolated from the plants *Aerva lanata* and *Tribulus terrestris* respectively and their structures were characterized by interpreting spectral datas.

From the above studies it was concluded that the aerial parts of *Aerva lanata* (Linn.) Juss. and *Tribulus terrestris* Linn. possess good diuretic, anti-inflammatory and antimicrobial activities. However, the future studies are proposed to find out the active principle responsible for the activity.

The medicinal properties attributed to *Aerva lanata* and *Tribulus terrestris* by Theraiyar in the treatment of Neerkattu (edema), Neeradaippu (Urine block), Muthirakiricharam (urinary infection) and pandu (anaemia), in his materia medica Patharthaguna Chinthamani are scientifically attested by the present findings that the above plants have diuretic, antiinflammatory, antimicrobial and antianemic properties.