CHAPTER 3

Aim and Objective
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3. AIM AND OBJECTIVE

3.1. Main Aim of the Study

A large segment of total human population has much reliance over traditional medicines since; they are easily accessible, efficacious, eco-friendly, inexpensive and no side effects etc. Additionally, the people have strong mind-set and cultural beliefs on native medicines followed by therapeutic approaches against wide range of ailments and diseases. The medicines exist in the present market are unable to reach the rural parts of the country because of their inadequacy in terms of supply. Besides, the medicines which are not completely accomplished for all categories of ailments which abridge the linkage between potential of health care system and public domain thereby the better management of the biomedical system will be imperfect. Currently, the data base on both traditional and folklore medicines are available which helps to access the desired information’s for management of various ailments. But, the knowledge on ethno-medicines like, tribal medicine system is untouched concept. The researches into ethno-medicines, therapeutic approaches like, multi-herbal components, preparation of drug and their formulations, mode of treatment, dosage and duration of treatments will facilitate the effectiveness of drugs and therapy of some specific ailments would be valuable.

In the recent days, the pathogenic microorganisms have acquired resistance against manifold drugs which threaten the public health through severe infectious ailments. This is because usage of haphazard drugs without any proper prescriptions followed by attempting with some unclassified drugs with respect to the ailments is concerned. This lay concrete on the way for reconsidering the outstanding performance of traditional medicines; hence there is an urgent need to explore the possibility of bridging the gap between people health and medicine system giving emphasis on wound healing, antioxidant and antimicrobial activities in the ethno-medicinal plant drugs practiced in the traditional/tribal medicine system.

Meanwhile, many experimental studies have demonstrated that, extracts of identified ethno-medicinal plants have a high degree of activities against different serious ailments namely, Wound, Microbial infection, Cancer, Gangrene, Snake bite, Dog bite, Gastritis etc. Among all these, wound healing is of great concern because it maintains stability of total health status in human system. Although, the medicinal
plants are in practice for their wound related problems since many years throughout the world, only few of the traditional medicines are validated scientifically for their therapeutic approaches. Since, wound is a most intricate sequence of actions instigated by the stimulus of injury to tissues, the wounds occurs as a result of physical injuries, microbial infections, accidental skin cut, boils, burns etc. Consequently, the management of these wide range of complaints are extremely challenging to the medical sectors. Hence, the plant based drugs and their formulations are having profound influence over wound healing through multiple mechanisms in which, the lead molecules derived from the herbal medicines facilitate restoration of tissue system followed by reinstallation of dermis and epidermis layers thereby, wound contraction will be accomplished through re-epithelialization at the affected/wound area.

However, the drug development for natural medications with herbal drug formulations through pharmacological investigations provides a major shift in prototype for wound management. The outcome of the investigations will propose a technology with integrated approaches by multidisciplinary and exploratory studies on defined objectives at in vitro and in vivo. Consequently, the proposed traditional medicine formulation needs to be evaluated through scientific validation; standardization and safety followed by consistency of the drug before these could be recommended for the management of wounds and associated ailments. However, on account of extensive literature review, the decisive aims and objectives of the research are formulated to find out the competence of active principles and efficacy of the traditional/tribal medicine formulations in the form of natural drug which can be appropriate amongst traditional medications in the therapy of wound and associated ailments.

The current research was aimed on ethno-pharmacological survey in the Biligirirangana Hill area, Chamarajanagara district (Karnataka), India and its adjoining areas in all the provinces. The base line survey aimed at identifying the ethno-medicinal plant drugs and medicinal formulation used in the wound healing and other related pharmacopoeia amongst the tribal community. The interactions were conducted with traditional/tribal healers using semi-structured questionnaire in order to gather traditional knowledge on the ethno-medicinal plant drugs. A total of 95 medicinal plants were recorded from 65 households comprising 76 genera and 48
families. The major ailments treated in these households were of microbial infection, cough, lactation failure, malaria; wound healing problems, cancer and breast tumour ailments, snake bite, dog bite, respiratory disorders and toothache etc. The ethno-medicinal plants with high Index performance are often confirmed to possess effective medicinal substances in the literature survey.

3.2. The Main Objectives of the Study

- To conduct base line survey to enlist the ethno-medicinal plant (EMP) drugs and Tribal Medicine Formulation (TMF) which are practiced for wound healing by traditional/tribal healers at Biligirirangana Hill area of Chamarajanagar district, Karnataka. The plant drugs samples was collected relating to wound healing and associated therapeutics respectively.
- To evaluate the extracts of EMP and TMF for various Phytochemicals qualitatively and study of Pharmacological efficiency through possible parameters from both EMP and TMF of aqueous and solvent extracts respectively.
- To study the efficacy of different solvent extracts of both EMP and TMF drugs as active Phyto-chemicals and Antimicrobials followed by MIC, MBC and MFC respectively.
- To exemplify the extracts of EMP and TMF pharmacologically and biochemically and the potent bioactive principles were evaluated for Antioxidants and Cytotoxic activities.
- To evaluate the ethno-medicinal plant drugs and formulations for Wound healing activity which includes the procedure of preparing plant drugs, formulation, methods employed by tribals and folk medicine men in their practices using animal model through incision, excision and dead-space wound models (Wistar albino rats of weighing about 150-250mg each was used for the study).
- To evaluate purified bioactive compound against cancer cell lines for their biological activities like, Change in morphology, cell proliferation assay and irreversibility of cell growth assay, cell cycle analysis and the role of serum at different concentrations.
- To assess the interaction of purified molecule *in vitro* with the snake venom protein using biophysical techniques in order to assess the activity anti-inflammatory enzymes.