Chapter 2

Rational and Plan of Work
2.1. Rational of work

Currently more than 80% of the world population depends on traditional and plant derived medicine because. Plants are important sources of medicines and presently about 25% of pharmaceutical prescriptions in the United States contain at least one plant derived ingredient. In the last century, roughly 121 pharmaceutical products were formulated based on the traditional knowledge obtained from various sources. In fact, it is now believed that Nature contributes up to 90% to the new drug molecule.¹

Traditional herbal medicines are getting significant attention in global health debates. In China, traditional herbal medicine played a prominent role in the strategy to contain and treat severe acute respiratory syndrome (SARS). China, India, Nigeria, the United States of America (USA) and WHO have all made substantial research investments in traditional herbal medicines. Industry has also invested millions of US dollars looking for promising medicinal herbs and novel chemical compounds. Many hope traditional herbal medicine research will play a critical role in global health.²

It is estimated that there are about 350,000 species of existing plants (including seed plants, bryophytes, and ferns), among which 287,655 species have been identified³ out of which up to 10% are used as foods by both humans and other animal species which suggest that remaining plant can also used as food and medicinal purposes if explored.⁴

Former president Dr. APJ Abdul Kalam advised that India should make use of its rich biodiversity and wide variety of medicinal plants to tap the global market for herbal medicines, on the lines of China and Japan since the demands for herbal remedies and traditional medicinal products are fast increasing worldwide and India had a tremendous potential in promoting this. He pointed that Japan and China have...
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successfully marketed their traditional medicinal products abroad and they are well accepted in the European market but India is not at all seen anywhere in the global market and to compete with global market there is need of enhancement of research in herbal and traditional medicine.\textsuperscript{5}

Thus, there is need to explore biological activity plants of traditional medicine with great ethno-medicinal importance. Hence, the present work was undertaken with considering that \textit{Meyna laxiflora} is small plant abundantly available in all over Satpuda region with traditionally importance in treatment of kidney stone, diphtheria, abdominal distention, inflammation, gastrointestinal disorder, dysentery, for removal of worms and as abortifacient.\textsuperscript{6-9}

2.2. Objective of the present work

- To estimate ethno-medicinal importance of plant
- To evaluate pharmacognostic parameter of plant
- To explore phytochemical and pharmacological potential of plant
- Conversion of active extract to suitable formulation.

The present study will provide safety and efficacy of selected plant along standardization parameters which will be beneficial for health of tribal people and will direct toward gaining intellectual property right.
2.3. Plan of work

- Literature survey in details
- Ethno-medical survey in Tribes of Satpuda hills
- Plant material collection and authentication
- Pharmacognostic study
  - Macroscopic evaluation
  - Microscopic examination
    - Transverse section
    - Stomatal number
    - Stomatal index
    - Vein-islet number
    - Vein-termination number
  - Determination of foreign organic matter
  - Determination of loss on drying
  - Determination of ash value
  - Determination of extractive value
- Successive extraction
- Residual solvent analysis
- Preliminary phytochemical screening
- Quantitative estimation of phytoconstituents
- Pharmacological screening of extracts
  - Anti-oxidant activity
  - Anti-inflammatory activity
  - Anti-ulcer activity
  - In-vitro cytotoxic activity
  - Anthelmintic activity
- Isolation and characterization of possible phytoconstituent
- Formulation development
2.4. References


