Chapter 3: Aim of work

The plants have provided mankind a large variety of drugs to alleviate suffering from diseases. In spite of spectacular advances in synthetic chemistry in recent years, the drugs of the plant origin have still retained their importance. However, Quality control and quality assurance of herbal drugs is needed to ensure that they have the expected effects.

Most serious drawback with Indian herbal drugs is the absence of standard methods for their quality control. Indian Herbal Pharmacopoeia has described quality control parameters for many herbal raw materials but not for its polyhedral formulations. Hence, it is essential to standardize the herbs and herbal formulation as per the WHO guidelines. Chromatographic analysis like finger printing and marker compound analysis can play a vital role in standardizing herbs and herbal formulations.

Two poly-herbal Ayurvedic formulations- “Rasayana Churna” and “Amalakyadi churna”- are taken up for present study. The present work is aimed at evolving comprehensive quality control methods and standardization parameters for these poly-herbal formulations using modern analytical techniques.

PLAN OF WORK:

Rasayana Churna:

✓ Identification, Collection and Authentication of crude drugs (By morphology of crude plant drug and microscopy study of powder)

✓ Preparation of standard Rasayana churna

✓ Pharmacognostical evaluation of Rasayana churna

✓ Development of physicochemical parameters Rasayana churna

✓ Estimation of total phenolic in E. officinalis and Rasayana churna by Folin ciocalteu method.
✓ Development and validation of UV Spectrophotometric method for Berberine in *T. cordifolia* and *Rasayana churna*

✓ Development and validation of HPTLC method for analysis of Berberine in *T. cordifolia* and *Rasayana churna*

✓ Development and validation of HPTLC for analysis of Gallic acid in *E. officinalis* and *Rasayana churna*

✓ Development and validation of HPTLC method for analysis of Diosgenin in *T. terrestris* and *Rasayana churna*

✓ Development and validation of HPLC method for Simultaneous analysis of Berberine and Gallic acid in *Rasayana churna*

✓ Development and validation of HPLC method for estimation of Diosgenin in *Rasayana churna*

✓ Evaluation of Immunomodulatory Activity by Carbon clearance assay

**Amalakyadi churna**

✓ Identification, Collection and Authentication of crude drugs (By morphology of crude plant drug and microscopy study of powder)

✓ Preparation of standard *Amalakyadi churna*

✓ Pharmacognostical evaluation of *Amalakyadi churna*

✓ Development of physicochemical parameters *Amalakyadi churna*

✓ Determination of Sodium and potassium ion in sindhava and *Amalakyadi churna* by flame photometric method.

✓ Estimation of total phenolic in *E. officinalis*, *T. chebula* and *Amalakyadi churna* by Folin ciocalteu method
✓ Development and validation of HPTLC method for simultaneous estimation of Gallic acid and piperine in *Amalakyadi churna*

✓ Development and validation of HPLC method for simultaneous estimation of plumbagin, gallic acid and piperine in *Amalakyadi churna*