Chapter 3

Aim and Objectives

Rationale:

- Formulation of a novel drug delivery system for the treatment of DM which is a very common disorder among Indians. Different types of oral hypoglycemic agents like biguanides, sulfonylureas, acargoses alone or with insulin, however long term usage of an allopathic agent may lead to side-effects.

- Our herbal formulation which is of spray type is new and novel for the treatment of DM and work looks at achieving a complete cure for DM using a combination of Gymnema sylvestre alone or in combination with Stevia rebaudiana.

- Gymnema sylvestre is widely available in the market in various forms ranging from extract paste, powder, crude plant, and solid form. In combination with other herbs, it is also available in form of tablets and capsules. Recently novel drug delivery system have gained significant popularity in the treatment of diabetes like buccal spray, nasal spray, buccal film etc. due to its outstanding characteristics.

- The aim of study is to formulate and develop buccal spray for Diabetes mellitus and its pharmacological evaluation in vivo.

- To formulate a novel herbal formulation for the treatment of Diabetes mellitus due to being less toxic and free from side effects as compared to synthetic drugs. The novel oral anti-diabetic buccal spray will be prepared because of its beneficial effects over the other dosage forms.
Objective of the work

- Collection and preparation of plant material *Gymnema sylvestre*.
- Extraction of plant material by Soxhlet continuous extraction method.
- Anti-diabetic activity of extract *in vivo*.
- Estimation of bio-chemical parameters.
- Preliminary trials batches.
- To formulate and develop Herbal Buccal Spray for Diabetes mellitus.
- Evaluation of the Formulated batches.
- To carry out stability study of the selected formulation.