Chapter 7
SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with the summary and conclusion of the work. A laboratory work was studied against Diabetes Induced Nephropathy in wistar rats to find out protective effect of polyherbal formulation which composed of 19 medicinal plants. For preparation of polyherbal formulation the ingredients were purchased from local raw material traders. All the ingredients (table 2.2) were collected, dried and powdered separately, passed through 80# sieve and then mixed mutually in particular proportions in a geometrical manner to get uniform mixture.

The polyherbal formulation was tested for its protective effect against streptozotocin induced Diabetic nephropathy in male wistar rats. Among the various therapeutic strategies, combination of antihyperglycemic, antihyperlipidemic and antioxidant activity can be beneficial in the prevention of diabetes mellitus and its complications. Polyherbal formulation rather than individual herbal formulation is commonly used. According to the traditional system of Indian medicine, a combination of substances is used to enhance the desired activity and eliminate unwanted side effects. The present study has been undertaken to evaluate the protective effect of polyherbal formulation against diabetes induced nephropathy in rats based on
antihyperglycemic, antihyperlipidemic, antioxidant activity of polyherbal formulation.

- The polyherbal formulation at a dose of 500mg/kg body weight restores the physiological parameters like water intake, food intake, Body weight, kidney weight/body weight etc.

- The polyherbal formulation at a dose of 500mg/kg body weight has shown improvement in haematological parameters.

- The polyherbal formulation at a dose of 500mg/kg body weight has produced antihyperglycemic activity.

- The polyherbal formulation at a dose of 500mg/kg body weight was better in lowering the total cholesterol, triglycerides levels when compared with Diabetic nephropathy rats.

- The polyherbal formulation at a dose of 500mg/kg body weight has shown increase in urinary volume, GFR and decrease in type IV collagen excretion, GAGS excretion.

- The polyherbal formulation at a dose of 500mg/kg body weight has shown decrease formation Advanced glycation end products in diabetic nephropathic kidney.

- The polyherbal formulation at a dose of 500mg/kg body weight decreases the inflammatory cytokines like IL-6, TGF-β and TNF-α.

- The polyherbal formulation at a dose of 500mg/kg body weight has shown better anti-oxidant activity.
In conclusion, the Antihyperglycemic, Antihyperlipidemic and Antioxidant properties of the phytoconstituents of Polyherbal formulation may play a vital role in eliciting their nephroprotective effect. Nephroprotective mechanism of both Aminoguanidine and Polyherbal formulation are different. Aminoguanidine elicit its effect predominantly on kidney hemodynamic, whereas, Polyherbal formulation elicit its effect both on glucose metabolism and kidney hemodynamics. However, in-depth human study is warranted to validate the therapeutic effects of Polyherbal formulation in Diabetic nephropathy.