PREFACE

The current global emerging health problem in India and in the world is diabetes mellitus. India will be the hub for 473 million people with diabetes mellitus in 2045 and occupy first place in the world. Majority of people in urban areas are more affected than rural areas this is due to lack of physical activity, obesity, stress and food habits.

India is a rich source of traditional folklore medicines for diabetes mellitus and they need to be explored scientifically for its use in mankind. The phytoconstituents present in the plants like alkaloids, flavonoids, polyphenols and other related compounds have tremendous medicinal value and exhibit wide range of activities.

Diabetes mellitus is a chronic disorder of metabolism with hyperglycemia due to impairment in insulin release and function. Long term complications of diabetes are neuropathy, retinopathy, nephropathy, cardiovascular disorders, poor wound healing and less noticed complications of diabetes are cognitive impairment and dementia. Though conventional medicines are available vowing to their side effects the use of herbal medicines are gaining importance. Their use in early stages may prevent the long term complications and progression of disease which was not observed with conventional medicines.

In the present study, traditionally used three plants for diabetes mellitus were selected, evaluated for antidiabetic activity and based on EC\textsubscript{50} values of individual plants in oral glucose tolerance test a polyherbal formulation was prepared. The prepared polyherbal formulation was screened for the antidiabetic effect and associated cognitive impairment.