INTRODUCTION

Diabetics mellitus (DM) is a group of metabolic disorder characterized by hyperglycemia associated with abnormalities in carbohydrate, fat and protein metabolism, and resulting in chronic complication including microvascular, macrovascular and neuropathic (Julie et al., 2002) abnormalities. WHO expects the numbers of adults (20 years and older) with diabetes (i.e. a mix of Type 1 and 2 diabetes) to rise to 300 millions by year 2025 from 135 millions in year 1995. This means that the increase is about 120% over 30 years. Moreover, 80% of those individuals will be found in developing countries by year 2025. The top three counties in the world with diabetes are in the following order: India, China and the USA (Bjork et al., 2001). Two types of diabetes includes diabetes mellitus type I, which is immune mediated and idiopathic and type II is predominately insulin resistance associated with metabolic disorders.

The management of diabetes includes the use of pancreatic hormones insulin, glucagon, and somatostatin which are involved in fuel homeostasis. But, when the levels of these hormones are pathologically altered, an individual can become hyperglycemic or hypoglycemic. Various pharmacologic agents act at several different cellular and molecular sites to normalize blood glucose levels. α-Glucosidase inhibitors slow the intestinal absorption of carbohydrates. Exogenous insulin, sulfonylureas, and meglitinides increase insulin levels, while diazoxide reduces insulin levels. Thiazolidinediones and biguanides increase insulin sensitivity at target tissues. Octreotide, a synthetic form of somatostatin, has wide-ranging inhibitory effects on hormone secretion. Exogenous glucagon can be used to increase plasma glucose levels. However, future research on the pharmacologic treatment of diabetes is focused on better delineation of the molecular mechanisms of current treatments and better understanding of the molecular and cellular
pathophysiology of Type II diabetes mellitus, to treat diabetes safer, effective and better without affecting other metabolic activities.

The carotenoids are enriched in *N. arboristris* in the methanolic extract of flower which are found to be potent antioxidants (Dasgupta, *et al.*, 2007). anti-inflammatory activity in acute inflammatory (Saxena, *et al.*, 1984) possessed by *N. arboristris* also possesses subacute and chronic anti-inflammatory and analgesic activity in ethanolic extract of seeds, arboristrisoside-A(Das *et al.*, 2008). *Nyctanthes arboristris* has strong stimulation of antigen specific and non specific immunity(Puri, *et al.*, 1994). The treatment with N. arboristris extract ameliorated the stress-induced variations in the biochemical levels of corticosterone, glucose, triglycerides; dopamine, 5-HT and nor epinephrine, the extract exhibited anxiolytic, antistress and nootropic activity. (Deshmukh *et al.*, 2006). The antibacterial activity was evaluated on gram positive (*Staphylococcus aureus*) and gram-negative (*Escherichia coli. Klebsiella Pneumoniae, Pseudomonas aeruginosa*) bacteria. (Priya *et al.*, 2007).

The *C. gigantea* has been studied for several medicinal properties and is reported to possess antipyretic properties (Chitme, *et al.*, 2005). Anti-diarrhoeal effect of hydroalcoholic (50:50) extract of aerial part of *C. gigantea* (Chitme *et al.*, 2004) was also found to be potent. Analgesic activities of *C. gigantea* hydroalcoholic (50:50) extract of aerial part of *C. gigantea* (Chitme *et al.*, 2005), Analgesic activity in chemical and thermal models in mice (Pathak, *et al.*, 2007) *Swarnabhasma*-treated animals showed significantly increased superoxide dismutase and catalase activity, two enzymes that reduce free radical concentrations in the body (Mitra, *et al.*, 2002).

The present study was taken up based on the hypothesis that, the diabetes mellitus is a complicated metabolic disorder and involves several mechanisms of induction. The basis of plant’s selection is on the basis of their proven scientific activities including their
immunomodulatory activity through involving free radical scavenging, anti-infective and anti-inflammatory activities. It has been thought that these properties may produce pancreatic cellular and tissue protection through antioxidant and avoiding infection and inhibiting the inflammatory damage to pancreas and avoiding pancreatitis.