ABSTRACT

In the present study the antihyperglycemic, hypolipidemic and antioxidant properties of the specially formulate polyherbal formulation in Streptozotocin induced diabetic rats was determined.

Diabetes was induced in Albino rats by administration of streptozotocin (55mg/kg, I.P). The formulation F1 (N:G:S=2:2:1) 200 mg/kg body weight was administered to diabetes induced rats for a period of 28 days, which possess better effect than formulation F2 (N:G:S=2:1:2) 200 mg/kg and formulation F3 (N:G:S=2:1:1) 200 mg/kg. Additional biochemical parameters such as serum cholesterol, triglycerides, HDL-cholesterol, LDL-cholesterol levels were also measured at the ending of study. After verify the antidiabetic property the F1 (N:G:S=2:2:1) 200 mg/kg on blood glucose was observed the finest one, in order to justify it we have to check its oxidative parameter , i.e.- SOD, TBAR, GSH and LPO, Which enzyme indicate its oxidative stress.

In the present study poly herbal extracts of *Azadirachta indica* (Neem), *Camellia sinensis* (Green tea), *Asparagus racemosus* (Shatavari) are prepared and converted into fast dissolving tablets using super disintegrant by direct compression method. Those tablets were evaluate for weight variation, hardness, dissolution time, drug content, friability and stability study. Stability study was also conducted as per ICH guidelines and all formulations were found to be stable. The results concluded that FDT of this combination extract will leads to improved effectiveness and hence better patients’ compliances.

From the above outcome it is concluded that the formulation F1 (N: G: S =2:2:1) 200 mg/kg on blood glucose possesses significant antidiabetic, hypolipidemic and antioxidant effects in streptozotocin induced diabetic rats .By through analytical justification i.e chromatographic separation, HPLC techniques , Spectroscopic technique (NMR & FTIR) the responsible phytoconstituent for physicochemical property was more justified.

**Key Words:** Antidiabetic, Fast Disintegrating Tablet, Azadirachta indica, *Camellia sinensis*, Asparagus racemosus, Streptozotocin.