Preface:

Diabetes is a disorder of glucose intolerance in general. But it is a multifaceted condition characterized by hyperglycemia also. The most serious threat is the complications from diabetes mellitus, such as cardiac disease, pulmonary vascular disease, stroke, neuropathy, amputations, renal failure and blindness. Therefore, diabetes is one of the most challenging health problems in the new millennium. Prevention and control programs are needed to stem the rising epidemic of diabetes and its complications. Medicinal plants are the richest bio-resource of drugs of traditional systems of medicine, modern medicines, nutraceuticals, food supplements, pharmaceutical intermediates and many chemical entities for synthetic drugs. A number of interesting outcomes have been found with the use of a mixture of natural products to treat various ailments. In recent years, most notably the synergistic effects and polypharmacological application of plant extracts/products are advocated worldwide. The biological evaluation of plant extracts is vital to ensure their efficacy and safety. Thereupon accepted as valid medicinal agents. Ethno pharmacologists, botanists, microbiologists, and natural-product chemists are searching the earth for those phytochemicals which could be developed for the treatment of infectious diseases especially in light of the emergence of drug-resistant microorganisms, hence the need is to produce more effective antimicrobial agents.

Many medicinal plants are considered to be potential antimicrobial as well as a source for novel compounds with anti-microbial activity and so on many other medicinal facets possibly with new modes of action. Although, there are several natural and synthetic products available to ameliorate fungal and bacterial infections. The use of plant products of specific nature could be of great significance in therapeutic treatments and could probably curb the problem of the multi-drug resistant organisms. Most antidiabetic drugs are hypoglycemic or anti-hyperglycemic (blood glucose level reducing) but to an extent promoting weight gain (adipogenic). Apparently, therefore, these drugs are beneficial over the short term, while ineffective for long term health in a case off type 2 diabetic conditions. Then most desirable situation would be the development of new types of antidiabetic drugs that are either hypoglycemic or anti-
hyperglycemic without any side effects with least promotion of weight gain, a considered culprit for aggravation of type 2 diabetic condition. Thus the plant product or plant originated medicines having control over vicious cycle of hyperglycemia seems to be saver of the beta cells in pancreas from deterioration and metabolic disorders. Apparently, the herbal remedies could act as good adjuvant drugs to reduce the requirement of insulin or sulphonyl urea derivatives, antidiabetic drugs known for their harmful side effects and high cost. Therefore, realizing the importance and need of systematic research on the herbal antidiabetic drugs, the present study was carried out on Capparis aphylla with an aim to find out a active compound.

The present study was in order to find out a common and multipurpose antidiabetic and antimicrobial drug. Fortunately we have achieved a compound having pleiotropic effect under diabetic conditions. Looking to the tremendous pressure of diabetes on population and national economy. Therefore, more herbal drug and natural products exploration have become a greater responsibility of biologist including pharmacologists/pharmacists/chemists.