

LETTER TO THE EDITOR

THERAPEUTIC POTENTIALS OF FENUGREEK

Sir,

(Received on March 23, 1998)

Therapeutic potentials of several medicinal plants are under active investigations and there are several reports indicating their antidiabetic actions, including the one that appeared in your esteemed journal about fenugreek (*Trigonella foenum graecum*) seeds (1). Improvement in lipid profile also, following an oral administration of the whole seeds of this plant, has been reported by other workers (2). However, chemical analysis of the whole seeds reveals an interesting fact- that is, the seeds have a high fibre content (upto 50.2%); which consists of 17.7% gum, 22.0% hemicellulose, 8.3% cellulose and 2.2% lignin. The observed hypoglycaemic and hypolipidaemic effects of the whole seeds in such studies are, at least partly, due to gastro-intestinal effects of these fibres, such as direct interference with intestinal absorption of glucose and cholesterol. Investigations on the effects of different histological subfractions of the seeds have also shown that antidiabetic properties are contained in the fibre rich high density part. The characteristic amino acid composition of the seed proteins has also been reported to exert hypoglycaemic action (3).

Therefore, from such studies with whole seeds, it is not possible to conclude whether the observed antidiabetic effect is due to

effect of these solid seed contents (i.e., fibres and amino acids), or some active pharmacological compounds are responsible for it. Existence of such compounds in the seeds can be established by using extracts or decoction, prepared from the plant seeds, instead of using the whole seeds themselves. Any observed antidiabetic effect following administration of these extracts or decoctions could be due to action of these active pharmacological compounds only. A single dose oral administration of either ethanol extract or the decoction, prepared from the fenugreek seeds, has earlier been reported to exhibit significant glucose lowering effects both in the normal and the alloxan diabetic mice (4). In our laboratory further purification of the water extract obtained from the fenugreek seeds was done using a series of conventional chromatographic techniques, such as gel filtration (using sephadex G100), thin layer chromatography (TLC; using silica gel), ion-exchange chromatography (using DEAE cellulose) etc., till a state of homogeneity. The homogeneous material, thus obtained has been demonstrated to exert significant antidiabetic effects, both hypoglycaemic and hypolipidaemic, in the alloxan diabetic male albino rabbits (5, 6). Further studies to elucidate its mode of action are underway.

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