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## EVALUATION OF HYPOGLYCEMIC POTENTIALS OF EKANAYAKAM (*SALACIA RETICULATA*) IN TYPE 2 DIABETICS

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### INTRODUCTION

Diabetes mellitus is the third most common and significant chronic endocrine disorder affecting millions of people world wide. Diabetes is growing at an alarming rate all over the world and India ranks number one followed by China and USA. Prevalence of diabetes in adults world wide was estimated to be 4% in 1995 and may rise to 5.4 per cent by the year 2025. According to WHO, herbal medicines serve in the healthcare of about 80 per cent of the world population. Fortunately, India is found to be a rich repository of medicinal plants and is well known for its richest and most diverse cultural traditions associated with the use of medicinal plants. One such herb which is predominantly found in India and Srilanka is *Salacia reticulata* (Ekanayakam). Since no scientific studies on Ekanayakam are available in India, the need for the present study.

### Objectives: To

- Study the nutritive contribution and physiochemical properties of *Salacia reticulata*.
- Determine the sub – chronic toxicity of *Salacia reticulata* in albino rats.
- Develop and evaluate the hypoglycemic effect of herbal capsules and tea from *salacia reticulata* in selected type 2 diabetic subjects.

### Methodology

#### Phase I – Nutrient and microbial analysis

Initially, the root bark of the herb *Salacia reticulata* was broken into smaller pieces and then powdered in a grinding machine used solely to powder the herbs. The root bark powder of *Salacia reticulata* was analysed for its moisture, fat, carbohydrate, protein, fiber and energy and minerals such as phosphorus, iron, zinc, calcium, magnesium, and manganese using standard procedures. Microbial load for *E.coli*, *Staphylococcus aureus*, *Salmonella typhii*, *Pseudomonas aeruginosa*, total aerobic bacterial count, and coliforms were tested using standard techniques in the root bark powder to confirm the safety of consumption of the herb.

#### Phase II - Sub chronic toxicity in albino rats.

The sub chronic toxicity of the herb was tested in albino rats as per OECD and DCGI schedule Y guidelines. 96 young and healthy albino rats of wistar strain were obtained from the animal laboratory of Avinashilingam University. After acclimatization, rats were assigned to four groups such that each group consisted of 12 males and 12 females and the mean body weights did not differ significantly. The maximum single human dose of the herb was converted into animal dose as per standard surface area ratio method, by multiplying with factor 0.018 and this was considered as therapeutic dose. From this dose, average dose (5xTD) and high dose (10xTD) was derived. The rats were fed with appropriate dosage of the herb by oral administration for a period of 90 days. Group 1 was an untreated vehicle control group. Group 2, group 3 and group 4 were fed with therapeutic dose (0.45g/kg), average dose (2.5g/Kg), and