

Herbs, rats, patients and a decade

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Plants, animals and humans have had an intricately woven relationship since evolution. It was natural for ancient man to turn to his closest associate, the trees to fulfil many of his needs. Getting healing materials for his ailments was one such benefit obtained from his plant allies. As man gradually developed and evolved into a scientific individual, he began to question everything around him. The rationale for the use of herbal remedies was also questioned. Everything needed to be based on evidence for the scientist.

Who was being used to find evidence of the suitability of plants as therapies for humans? It was again their immediate neighbour - animals! Among all the members of the animal kingdom, it turned out to be mice and rats that became the commonest victims of scientific experimentation.

As the topic indicates, this talk describes my involvement with herbs, rats and patients for the benefit of mankind. I was introduced to Wistar rats at the Animal Centre of the Medical Research Institute, Colombo, where I got my training in animal handling techniques.

In my doctoral studies, I attempted to establish the oral hypoglycaemic effect of *Ipomoea aquatica* (morning glory) in normal and Wistar rats and Type II diabetic subjects on diet control. One important factor is the ethical aspects of animal experiments. It was relatively easy to obtain ethical clearance at that time where relatively few studies were being done using rats.

Following positive results with animal experiments, I carried out the study with newly diagnosed diabetic patients on diet control attending the Family Practice Centre of the University of Sri Jayewardenepura. The patients were quite happy to drink the blended extract of *Ipomoea aquatica* instead

of the bitter preparations they were trying on their own following folklore. Morning glory being a common green leafy vegetable, the establishment of its oral hypoglycaemic effect in patients was a significant finding. The active compound was found to be a flavones glycoside containing glucose and rhamnose as a disaccharide. The study was concluded in 2002 with me receiving my PhD as well as six awards.

In 2008, I began the supervision of undergraduate and post-graduate students on similar studies. Being friendly and easy-to-manage, Wistar rats were selected as the animal model. The first project was on the oral hypoglycaemic activity of a decoction made from the leaves *Nyctanthes arbor-tristis* (night blooming jasmine) which exerted a positive effect in Wistar rats. Thereafter, three PhD, one MPhil, one MSc and three undergraduate studies followed on similar themes.

The PhD studies involved establishing oral hypoglycaemic effects of American oyster (*Pleurotus ostreatus*) and Abalone (*P. cystidiosus*) mushrooms, hot water extract of flowers of *Aegle marmelos* (bael, beli mal/vilvam poo) and the decoction of *Munronia pinnata* in rats and Type II diabetic patients. Obtaining ethical clearance was extremely difficult for these studies. All the clinical trials were registered with the Sri Lanka Clinical Trials Registry.

The studies enabled our team to provide scientific evidence for the traditional medicinal claims of the studied herbs and mushrooms. With wide dissemination of the findings of the research, attempts were made to use the information for the benefit of mankind.

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