EVALUATION OF ANTIASTHAMATIC AND ANTIOXIDANT ACTIVITIES OF VIGNA MUNGO L. HEPPER SEED EXTRACTS

INTRODUCTION

Herbs are staging a comeback and herbal ‘renaissance’ is happening all over the globe. The herbal products today symbolize safety in contrast to the synthetics that are regarded as unsafe to human and environment. Although herbs had been priced for their medicinal, flavouring and aromatic qualities for centuries, the synthetic products of the modern age surpassed their importance, for a while. However, the blind dependence on synthetics is over and people are returning to the naturals with hope of safety and security.

The importance of medicinal and aromatic plants (MAPs) in today’s society is manifold, ranging from herbal cosmetics, neutraceuticals and medicine to biodiversity conservation and rural livelihood development. Coming to the Indian scenario, India has an export share of nearly 13% in the global market, which is estimated as US$ 1.03 billion. The Indian herbal drug market size is about $1 billion and the export of plant based crude drug is around $100 million. The current market potential of herbal medicine is estimated about $80–250 billion in Europe and USA. (Bhattacharyya et.al, 2009)

It has been estimated that in developed countries such as United States, plant drugs constitute as much as 25% of the total drugs, while in fast developing countries such as China and India, the contribution is as much as 80%. Thus, the economic importance of medicinal plants is much more to countries such as India than to rest of the world. These countries provide two third of the plants used in modern system of medicine and the health care system of rural population depend on indigenous systems of medicine. Of the 2, 50,000 higher plant species on earth, more than 80,000 are medicinal. India is one of the world’s 12 biodiversity centers with the presence of over 45000 different plant species. India’s diversity is unmatched due to the presence of 16 different agro-climatic zones, 10 vegetation zones, 25 biotic provinces and 426 biomes (habitats of specific species). Of these, about 15000-20000 plants have good medicinal value. However, only 7000-7500 species are used for their medicinal values by traditional communities. Global estimates indicate that 80% of about 4 billion population can not afford the products of the Western pharmaceutical Industry and have to rely upon the use of traditional medicines which are mainly derived from plant material. This fact is well documented in the inventory of medicinal plants, listing over 20,000 species. In spite of the overwhelming influences and our dependence on modern medicine and
tremendous advances in synthetic drugs, a large segment of the world population still likes drugs from plants. In many of the developing countries the use of plant drugs is increasing because modern life saving drugs are beyond the reach of three quarters of the third world’s population although many such countries spend 40-50% of their total wealth on drugs and health care. As a part of the strategy to reduce the financial burden on developing countries, it is obvious that an increased use of plant drugs will be followed in the future. (Thomas et.al., 1998)

A major lacuna in Ayurveda/herbal drugs is the lack of drug standardisation, information and quality control. Most of the Ayurvedic medicines are in the form of crude extracts which are a mixture of several ingredients and the active principles when isolated individually fail to give desired activity. This implies that the activity of the extract is the synergistic effect of its various components. In the absence of pharmacopoeia data on the various plant extracts, it is not possible to isolate or standardise the active contents having the desired effects. Ayurvedic pharmacopoeia compiled on modern lines and updated periodically is an urgent requirement. A combination therapy integrating Ayurveda and allopathy whereby the side effects and undesirable reactions could be controlled can be thought of. Studies can show that the toxic effects of radiations and chemotherapy in cancer treatment could be reduced by Ayurvedic medications and similarly surgical wound healing could be accelerated by Ayurvedic medicines. Modern science and technology have an essential role to play in the process. An integrated approach for the cultivation, conservation and preservation of important plant species through plant molecular biology, plant tissue culture, research on the rationale and methodology of Ayurvedic medical practice; isolation of active constituents and their development into new therapeutics; standardization and validation of known herbal medicines and other related aspects need to be focused upon. For developing phytomedicines as a major area of concern, it would be essential to adopt a holistic interdisciplinary approach, have a scientific basis of the understanding of the plant systems, new innovations and their conservation for utilization in future on a sustainable basis.

_Vigna Mungo_ Linn. (Leguminosae) is widely distributed in tropical West Africa and extensively cultivated all over India. It is commonly known as Black gram, Urad and Udid. Black gram is used traditionally for preparation of fermented and steamed puddings idlis) and variety of other leavened foods with special textural qualities. Few preliminary reports on the chemistry and some functional characteristics of black gram mucilage are available. We considered that the detailed systematic analysis of the pulse is necessary. Despite their food
and traditional nutritive uses black gram have also been valued as folkloric herbal remedies for the treatment of rheumatism, affections of nervous system, fever, piles, and affections of liver and cough.