INTRODUCTION

Medicinal plants constitute a source of raw materials for both traditional systems of medicine (e.g. Ayurvedic, Chinese, Unani, Homeopathy, and Siddha) and modern medicine. Nowadays, plant materials are employed throughout the industrialized and developing world as home remedies, over-the-counter drugs, and ingredients for the pharmaceutical industry. As such, they represent a substantial proportion of the global drug market. Most rural populations, especially in the developing world, depend on medicinal herbs as their main source of primary health care. Although most medicinal herbs are not in their natural state fit for administration but preparations suitable for administration are made according to pharmacopeial directions. The therapeutic potential of a herbal drug depends on its form: whether parts of a plant or simple extracts or isolated active constituents.

Now a day’s many synthetic and herbal medicines available in the market which are used as antioxidant additives or for anti-ageing therapy. Synthetic antioxidant like butylated hydroxy anisole (BHA), butylated hydroxyl tolune (BHT), tertiary butylated hydroxyquinone and gallic acid esters however these have been suspected to cause or prompt negative health impacts. Hence there is a trend to substitute them with naturally occurring antioxidants present in herbal medicine which consist of antioxidants in the form of polyphenols, anthocyanins, flavonoids.

Alternative and traditional medicines, largely herbal in nature, are now regarded as important but underutilized tools against disease. The World Health Organization (WHO) recognized this fact in the early and encouraged governments to effectively utilize local knowledge of herbal medicines for disease prevention and health promotion. Herbal medicines, however, suffer from a range of shortcomings. These include insufficient and unacceptable evidences of safety.

Herbal medicines are generally regarded as safe based on their long-standing use in various cultures. However, there are case reports of serious adverse events after administration of herbal products. In a lot of cases, the toxicity has been traced to
contaminants and adulteration. However, some of the plants used in herbal medicines can also be highly toxic. As a whole, herbal medicines can have a risk of adverse effects and drug–drug and drug–food interactions if not properly assessed. Assessment of the safety of herbal products, therefore, is the first priority in herbal research. There are various approaches to the evaluation of safety of herbal medicines. The toxic effects of herbal preparation may be attributed mainly to the inherent toxicity of plant constituents and ingredients, manufacturing malpractice and contamination. Evaluation of the toxic effects of plant constituents of herbal formulation requires detailed phytochemical and pharmacological studies. It is, however, safe to assume that, based on human experiences in various cultures, the use of toxic plant ingredients has already been largely eliminated and recent reports of toxicity could largely be due to misidentification and overdosing of certain constituents. Since no systematic study has been reported so far, it has been decided to analyse the herbal medicine which are used as antioxidants for anti-ageing therapy with special reference to antioxidant, pesticides, fumigants, and heavy metal analysis in herbal medicine.