PHYTOCHEMICAL AND PHARMACOLOGICAL STUDIES OF
Moringa concanensis Nimmo AGAINST CANCER

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SYNOPSIS

Numerous scientific researchers are conducted in the last few years have revealed that a diet rich in fibre, complex carbohydrates, vitamins and mineral salts, are the diet considered ideal in order to maintain the good health and to prevent various illnesses. Fruit and vegetables are the food, it contains a large quantity of vitamins, and it is mainly because of this that many researchers have to focused their attention on the studies of nutritional plants.

The sudden evolution of the society towards technological patterns and increasing the use of synthetic remedies have seen a consequent erosion of a rich cultural heritage regarding popular phyto-therapy that had developed over the centuries. (Guarrera and Lucia, 2007).

Plants are the major source of medicines and foods which is play a vital role in the maintenance of human health. The importance of plants in medicine remains even of greater relevance with the current global trends of shifting to obtain drugs from the plant sources, as a result of which attention has been given to the medicinal value of herbal remedies for safety, efficacy and economy (Glombitza et al.,1993; Mahabir and Gulliford, 1997). The medicinal value of these plant sources lies in some chemical substances that produce a definite physiological action on the human body (Edeoga et al., 2005). These plants are main source of certain bioactive molecules which act as an antioxidants and antimicrobial agents (Sengul et al., 2009; Chopra et al.,1992; Bruneton,1995; Khalil et al., 2007).

The demand for the plant-derived drugs seems to be increased in developing countries due to their medicinal values and economic procurement. Plants have been used in a wide variety of dosage form. Traditional dosage form includes pill, powder, semi fluid extract, tincture, decoction, medicated tea and solution (Sikarwar et al.,2008).
Antimicrobial drugs are the greatest contribution of the 20th century to therapeutics. Antimicrobials are widely used as growth promoting agent and therapeutic agents against microbial infections. The presence of antimicrobial agents in fish and fisheries may cause bacterial resistance, which may be transferred to human beings (Venkatesh, et al., 2013).

Medicinal plants have been used since thousands of years from the beginning of human civilization for its therapeutic properties, containing inherent active ingredients that has properties to heal sores, relieve pain, cure diseases (Owolabi et al., 2007) and maintenance of overall good health (Bailey and Day, 1989).

Standardized manufacturing procedures and suitable analytical tools are required to establish the necessary framework for the quality control of herbal preparations. Among these tools, HPTLC is widely used to establish reference fingerprints of herbs, against which raw materials can be evaluated and finished products assayed (Pulok, 2010; Bhutani, 2003).

Any loss in a particular chemical may result in loss of pharmacological action of that herb. As an herbal preparation comprises hundreds of mostly unique or species-specific compounds, it is difficult to completely characterize all these compounds (Deattu et al., 2013).

Flavonoids are the most important Phytochemical which modify the natural biological response due to its antiviral, anticancerous and anti-allergic properties but when these are administered orally or topically, have poor or very poor absorption. The reason for this poor absorption is due to the bacterial degradation of phenol moiety of the molecules or its complex formation with other substances present in the gastrointestinal tract (GIT) (Bruneton, 1999).

Lebel (2003) Stated that the biomedical approach related to health based on the methods of diagnosing and treating specific pathologies: one pathogen = one disease, an approach that does not take into an account on the connections between diseases and socioeconomic factors.
such as poverty and malnutrition and even less of the connections between disease and the environment in which sick people live.

Plants extracts or their active principles have enormous therapeutic potentials reported by Iwu et al. (1999) and the continued studies of their secondary metabolites has led to an important break through in pharmacology and which is helped tremendously in the development of modern pharmacotherapeutics. The increasing prevalence of multidrug resistant strains of bacteria and the recent appearance of strains with reduced susceptibility to antibiotics raises the specter of untreatable bacterial infections and adds urgency to the search for new infection-fighting strategies (Sieradzhki et al. 1999).

The plant material was selected for the present study especially the leaves and bark of Moringa concanensis Nimmo. The leaves and barks were collected from the Essanai Village of Perambalur District, Tamil Nadu state. Collection and processing of plant material: Leaves and barks of Moringa concanensis were collected from Essanai Village in the month of March 2010, shade dried and then powdered. Moringaceae, a monogeneric family, with the single genus Moringa is characterized by 13 species of dicotyledonous tropical and sub-tropical flowering trees. Almost all Moringa species appear to have originated in India and Africa, but have been introduced into several countries of the tropics (Amaglo, 2010).

The plant material was identified with the help of by using the methods described by Jain (1983). According to Jain (1987), samples of plants were collected, identified and voucher specimens were deposited in the Department of Biotechnology, Sri Vinayaga College of Arts and Science, Ulundurpet, Tamil Nadu. The collected plant was identified by using the flora of the Presidency of Madras (Gamble and Fischer 1915–1935).
After collecting, the plant materials such as leaves and bark were dried under shade condition. After optimum drying, the leaves and bark materials were coarsely powdered separately and stored in well-closed containers for further laboratory analysis. The solvent extracts were subjected to routine qualitative chemical analysis to identify the nature of Phytochemical (alkaloids, fatty acids, Emodins, Flavonoids, steroids Terpenoids, anthracen glycoside, Phenoils, Saponins, tannins, xanthoprotein, carbohydrate, cardiac glycosides, amino acids, volatile oils and reducing sugars) constituents present in them. Standard procedures were followed to identify the described by Trease and Evans (1996).

Many phyto drugs when suitably illuminated emit light of different wave length or colour from that which falls on them. The fluorescence analysis of drug extract helps to identify the drug with specific fluorescent colours and also to find out the fluorescent impurities. The study of fluorescence analysis can be used as a diagnostic tool for testing adulteration.

The objective of the present study was to investigate the Phytochemical constituents, antimicrobial studies, anticancerous activity by using cell line and molecular docking studies by using the plant *Moringa concanensis* Nimmo. The results obtained from various investigations have been discussed in the light of available literature.

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