

Phytochemicals for treatment of cancers, neurological diseases and cardiovascular diseases.

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Introduction

Around the world, people are increasingly turning to medicinal plants for health benefits and ailment treatment. Carotenoids, flavonoids, lignans, and phenolic acids, among other phytochemicals from medicinal plants, have been discovered and have a wide range of biological effects.

Since the invention of medicine, natural goods, particularly those made from plants, have been used to support human health. Traditional medicine has been practiced and accepted by people for a very long time and has been there since the beginning of time. Plants have been a reliable source of medicines since the dawn of mankind. Scientists from all over the world have been interested in plant-derived medicines for a long time because of their few side effects and beneficial impact on human health. Plants with a long history of usage in ethno medicine can be a valuable source of medicines for the treatment of many illnesses and infectious diseases in the pharmaceutical environment. The vast majority of different kinds of bioactive chemicals with a variety of therapeutic characteristics are thought to be stored in medicinal plants. Anti-inflammatory, antiviral, anticancer, antimalarial, and analgesic qualities are only a few of the numerous therapeutic effects linked to medicinal plants [1].

In this review, a total of 15 medicinal plants from seven families and 15 genera were identified. The findings, which include the scientific name, botanical family, and local name for each species. The Fabaceae family has the most species with six, followed by Acanthaceae with three, Verbenaceae with two, Mimosaceae, Casealpiniaceae, Euphorbiaceae, and Rutaceae with one species each.

Cancers

There is a need to create medications that prevent the local invasion and spread of cancer cells due to the high morbidity and mortality of oral cancer. High cytotoxic concentrations of the steroidal lactone Withaferin A, which was derived from the *Withania somnifera* plant, have been shown to prevent the migration of cancer cells. They indicate that withaferin A may have the potential to prevent metastasis in the treatment of oral cancer since it reduced oxidative stress-mediated migration and invasion in oral cancer Ca9-22 cells at a comparatively low dosage of 0.5 M. Lutein-7-O-glucoside, a flavonoid that inhibits cell proliferation, is being used to investigate the impact of oral cancer metastasis. They suggest that luteolin-

7-O-glucoside inhibits cell migration and invasion through controlling the production of matrix metalloproteinase-2 and the extracellular signal-regulated kinase pathway in accordance with their findings [2].

The majority of cancer deaths worldwide are caused by non-small-cell lung cancer, which makes up around 85% of all cases of lung cancer. The anti-cancer potential of licochalcone D, a flavonoid derived from *Glycyrrhiza inflata*, was studied by Oh et al. using a non-small-cell lung cancer cell line with a mutant epidermal growth factor receptor. They discovered that licochalcone D produces reactive oxygen species-dependent apoptotic cell death, reduces the development of cancer cells, and inhibits the function of the epidermal growth factor receptor and the hepatocyte growth factor receptor [3].

Neurological Diseases

It is common to find quercetin, a flavonoid having a variety of pharmacological properties, in fruits and vegetables. Quercetin has been shown to have a neuron-protective impact via reducing oxidative stress and inflammation. the impact of quercetin on AD and its underlying processes, with a focus on cognitive function. Last but not least, quercetin is suggested to have potential as a lead chemical for therapeutic use in this condition [4].

Cardiovascular Diseases

The biggest cause of death worldwide is cardiovascular disease, which is mostly linked to atherosclerosis. the most recent understanding of dyslipidemia, oxidative stress, and inflammation-related atherosclerotic consequences and underlying molecular mechanisms of phenolic substances. The authors of this review advocate proper consumption of foods that naturally contain phenolic compounds in order to prevent cardiovascular illnesses as well as future research directions for alternative therapy employing phenolic compounds [5].

References

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