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Plant medicine and their application

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Abstract

❑ **Polyphenols particularly flavonoids, are a large group of organic compounds in plants that showed important pharmaceutical activities such as antiradical properties. In body, free radicals such as reactive oxygen or nitrogen species (ROS or RNS) are formed normally during physiological processes such as cell respiration and have important roles in cell signalling. Also, free radicals may be formed through different exogenous agents such as UV radiation, smoking and both acute and chronic alcohol exposures and cause increase oxidative stress. High amount of the free radicals are harmful and can damage or cause complete degradation of important molecules in cells, including lipids, protein and nucleic acids that play important roles in induction and development of different diseases. Ethanol consumption has adverse effects on tissues of kidney, testis, nervous system and cardiovascular system. Ethanol causes ROS production such as H_2O_2 and induces alteration in biochemical and physiological conditions of cells, results in structural and morphological changes and finally creation of injury in many tissues. Antioxidant supplementation specially with a natural source may use to cure these injuries. Phytochemical compounds, particularly flavonoids act as scavenger, reducing, quencher agents and/or activators of cellular antioxidant enzymes to prevent free radical damages in biological systems.**