

The Natural Products and Healthy Life

Selamoglu Z*

Department of Medical Biology, Faculty of Medicine, Nigde Ömer Halisdemir University, Nigde, 51240 Turkey

Editorial mini review

Oxidative stress, simply put, is the damage made to a cell through the oxidative process. Oxidation, in itself, is a very normal process - it happens all the time to our bodies and many things that surround us [1]. However, when there are disturbances in the natural oxidation process, such as the attraction of a free radical to another molecule in your body, the results are often toxic effects. In humans, oxidative stress is involved in many diseases, such as atherosclerosis, Parkinson's disease, heart failure, myocardial infarction, Alzheimer's disease and chronic fatigue syndrome [2]. Reactive oxygen species can be beneficial, as they are used by the immune system as a way to attack and kill pathogens. Reactive oxygen species are also used in cell signaling. This is dubbed redox signaling. Depending on what form of toxin or stress your body is exposed to on an ongoing basis, you could find yourself suffering, even at an early age, from diseases that could be prevented if only you'd have minimized the harmful free radicals in your system. As compounds that have high activity, free radicals originate from endogenous sources during the vital activities such as respiration, enzyme and auto oxidation reactions and from ambient sources such as cigarette smoke, air pollution, ionized radiation and xenobiotics [3,4]. Antioxidants are molecules that prevent the oxidation caused by free radicals, and that are able to interact with and stabilize free radicals. Depending on their sources, antioxidants are divided into two groups as artificial and natural antioxidants. Natural antioxidants are present in nearly all plants, microorganisms and some animal tissues. By developing varying types of antioxidants, plants have developed protection systems against the damages of the active oxygen forms caused by several stresses [5,6]. By this means, with the help of antioxidant enzymes, radical scavenging compounds such as carotenoids, ascorbic acid and the other synthesized components, plants repair their cells and genetic materials. An antioxidant is a molecule capable of inhibiting the oxidation of other molecules. Oxidation is a chemical reaction that transfers electrons or hydrogen from a substance to an oxidizing agent. Oxidation reactions can produce free radicals. In turn, these radicals can start chain reactions. When the chain reaction occurs in a cell, it can cause damage or death to the cell [7,8]. Antioxidants terminate these chain reactions by removing free radical intermediates, and inhibit other oxidation reactions [9,10]. They do this by being oxidized themselves, so antioxidants are often reducing agents such as thiols, ascorbic acid, or polyphenols. Many examples show that biologically diverse organisms from the land and sea such as plants could be continued to afford new small-molecule organic compounds with many potential include anticancer and many more activity. Natural products present new class of the bioactive chemicals with wide range of biochemical mechanisms of action which it is remain one of the much interesting point as lead compounds finding process that might lead to the alleviation of the new pharmacological drugs [11,12].

Natural products have been the source of most of the active ingredients of medicines. Many of 80% of drug substances were natural products or inspired by a natural compound. Almost half of the drugs approved since 1994 are based on natural products. Thirteen natural product-related drugs were approved from 2005 to 2007. They include compounds from plants (including elliptinium, galantamine

and huperzine), microbes (daptomycin) and animals (exenatide and ziconotide), as well as synthetic or semi synthetic compounds based on natural products (e.g. tigecycline, everolimus, telithromycin, micafungin and caspofungin). They cover a range of therapeutic indications: anti-cancer, anti-infective, anti-diabetic, among others, and they show a great diversity of chemical structures. Therefore screening of the natural sources such as plants could be presented valuable line for finding new lead compounds in many diseases include cancer, etc. [13-15].

Plants are indispensable basic sources of life since human existence. Herbs and plant extracts have been used for the prevention and treatment of human diseases in many countries for medical purposes. Results of the latest studies show the importance of natural antioxidants in human health.

Consequently, research has focused on the most powerful plants and herbal extracts as well as determining their importance on human and environmental health. The active substances in medicinal plants are distributed by blood through tissues. On the other hand, the active component shows its effect on cell membrane or enzymes in the cell membrane. These agents are enzymatically affecting cell functions by either stimulate the function or act as a function. It is stated that the phytochemicals available in plants may differ based on the conditions in which the plant grows and the genetic factors. It is also known that also the growth of the plant and even the hour when sampling was carried out may alter plant content. It is stated that under stress conditions such as salinity, aridity, flooding and heavy metals, antioxidant enzyme activity increases. It is known that the responses plants give against stress vary according to the species of the plant, its development, the habitat it grows and the duration of the stress it is exposed to. Most recent studies have shown that natural preventive compounds have gained popularity day by day as some of the widely used synthetic pharmaceuticals and therapeutics might have some undesirable effects. One can think that certain natural food ingredients would be better and safer than synthetic ones. Many of these compounds, such as plant phenolics, often exhibit antioxidant activities; therefore, the addition of these compounds into food products may be helpful to health of the consumers and also to the stabilization of food products. Due to the presence of some of these effective compounds such as flavonoids (flavones and flavanones), phenolic acids and their esters in plant and plant extracts, if the positive physiological properties and the non-toxicity mostly of the plant samples are proven it could be used as a mild antioxidant and preservative [16-18].

*Corresponding author: Prof. Dr. Zeliha Selamoglu, Department of Medical Biology, Faculty of Medicine, Nigde Ömer Halisdemir University, Nigde, 51240 Turkey, Tel: +90-388-2253123; Fax: +90-388-2252582; E-mail: zselamoglu@ohu.edu.tr

Received May 03, 2018; Accepted May 05, 2018; Published May 15, 2018

Citation: Selamoglu Z (2018) The Natural Products and Healthy Life. J Tradit Med Clin Natur 7: e146. doi: 10.4172/2573-4555.1000e146

Copyright: © 2018 Selamoglu Z. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

The consumption volume of medicinal plants rapidly increased due to the increase in natural product consumptions. Cultivation of plants which are collected from the nature has been increased rapidly due to demand by consumers. The most effective flavonoids and phenolic compounds which have the ability to donate hydrogen in the hydroxyl group of aromatic rings to prevent lipid, carbohydrates and proteins from becoming free radicals are found in leaf, flower and woody parts of plants. These natural plants are highly preferred in human diet because of their antioxidant characteristic which inhibits oxidation of phytochemicals in living organisms.

Due to antioxidant and preservative properties of most of plants, it may not only prolong the physiological functions of some aquatic living organisms, but also contribute to the health benefit of consumers who consume human and animals.

References

1. Lobo V, Patil A, Phatak A, Chandra N (2010) Free radicals, antioxidants and functional foods: Impact on human health. *Pharmacogn Rev* 4: 118.
2. Sevindik M, Akgul H, Bal C (2017) Determination of Oxidative Stress Status of *Ompholatus olearius* Gathered from Adana and Antalya Provinces in Turkey. *Sakarya University J Sci* 21: 324-327.
3. Paiva CN, Bozza MT (2014) Are reactive oxygen species always detrimental to pathogens? *Antioxid Redox Signal* 20: 1000-1037.
4. Sevindik M, Akgul H, Pehlivan M, Selamoglu Z (2017) Determination of therapeutic potential of *Mentha longifolia* ssp. *longifolia*. *Fresen Environ Bull* 26: 4757-4763.
5. Selamoglu Z (2017) Polyphenolic Compounds in Human Health with Pharmacological Properties. *J Tradit Med & Clin. Natur* 6: 1.
6. Sevindik M, Akgul H, Akata I, Alli H, Selamoglu Z (2017) Fomitopsis pinicola in healthful dietary approach and their therapeutic potentials. *Acta Alimentaria* 46: 464-469.
7. Selamoglu Z, Dugun C, Akgul H, Gulhan MF (2017) In-vitro Antioxidant Activities of the Ethanolic Extracts of Some Contained-Allantoin Plants. *Iran J Pharm Res* 16: 92-98.
8. Sevindik M, Akgul H, Dogan M, Akata I, Selamoglu Z (2018) Determination of Antioxidant, Antimicrobial, DNA Protective Activity and Heavy Metals Content of *Laetiporus sulphureus*. *Fresenius Environ Bull* 27: 1946-1952.
9. Pasdaran A, Delazar A, Ayatollahi SA, Pasdaran A (2017) Chemical composition and biological activities of methanolic extract of *Scrophularia oxysepala* Boiss. *Iran J Pharm Res* 16: 338.
10. Korkmaz AI, Akgul H, Sevindik M, Selamoglu Z (2018) Study on determination of bioactive potentials of certain lichens. *Acta Alimentaria* 47: 80-87.
11. Selamoglu Z, Ozgen S (2016) Therapeutic Potential of Saffron Crocus (*Crocus sativus* L.). *Turkish J Agric Food Sci Tech* 4: 1240-1245.
12. Sevindik M, Akgul H, Korkmaz AI, Sen I (2018) Antioxidant Potentials of *Helvella leucomelaena* and *Sarcosphaera coronaria*. *J Bacteriol Mycol Open Access* 6: 00173.
13. Pehlivan M, Akgul H, Yayla F (2013) The some nutrient and trace elements content of wild plants using as ethno botanical and grown in the Gaziantep region. *J Appl Pharm Sci* 3: 143-145.
14. Katiyar C, Gupta A, Kanjilal S, Katiyar S (2012) Drug discovery from plant sources: An integrated approach. *Ayu* 33: 10.
15. Sevindik M (2018) Pharmacological Properties of *Mentha* Species. *J Tradit Med Clin Natur* 7: 259.
16. Ozgen S, Kilinc OK, Selamoglu Z (2016) Antioxidant Activity of Quercetin: A Mechanistic Review. *Turkish J Agric Food Sci Tech* 4: 1134-1138.
17. Jabeena S, Hanifa MA, Khanb MM, Qadric RWK (2014) Natural products sources and their active compounds on disease prevention: A Review. *Int J Chem Biochem Sci* 6: 76-83.
18. Dogan H, Akyol E, Akgul H, Talas ZS (2014) Biologic activities of honeybee products obtained from different phytogeographical regions of Turkey. *Turkish J Agric Food Sci Tech* 2: 273-276.