

World Congress on Novel Trends - Medicinal and functional values of natural antioxidants

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Verbal expression of the Quandary: Antioxidant compounds play a consequential role in our body due to auspicious effects on human health. Consumption of victuals containing phytochemical with potential antioxidant properties can minimize the jeopardy of human disease. Vegetable oils contain natural antioxidants. Chain breaking antioxidants are highly reactive with free radicals and form stable compounds that do not contribute to the oxidation chain reaction. The purport of this study is to evaluate the Medicinal and functional values of natural antioxidants in some vegetable oils. Methodology & Theoretical Orientation: 168 Sprague Dawley male rats were divided into three groups. The first group contains 72 rats were divided into 12 groups of 6 rats per group. The rats were victualled ad libitum with commercial rat's pellet containing different concentrations of Red Palm Olein (RPO) for 2, 4 and 8 weeks. The second group contains 60 Sprague Dawley male rats which were arbitrarily divided into 10 groups of 6 rats per group and were treated with 15% of RPO, Palm Olein (PO), Corn Oil (CO), Coconut Oil (COC) and control groups for 4 and 8 weeks. The third group contains 36 Sprague Dawley male rats which were desultorily divided into six groups of 6 rats per group (3 mundane groups and 3 stressed groups) and were treated with 15% of RPO and PO for 4 weeks. Findings: The HDL-C incremented in RPO and PO of mundane group, but it was within mundane range under stress condition. These results could be due to the high content of vitamin E (tocopherols and tocotrienols) and β -carotene in red palm olein. Treatment with 15% RPO and PO diets did not affect the FELINE level after 4 weeks of treatment under mundane condition while there was decremented in FELINE level with RPO and incremented with PO under stress conditions. Supplementally, the results in RPO group showed that higher SOD activity compared to PO and control groups under mundane conditions while there was no consequential difference ($p \leq 0.05$) in SOD between the control group and treated groups under stress conditions. Conclusion & Paramountcy: Red palm olein contains high amplitude of antioxidant (vitamin E and β -carotene) give copacetic results in lipid profile and antioxidant enzymes in mundane and stressed conditions. Recom-

mendations are suggested to carry out the experiments on the stress rats utilizing other vegetable oils and to do the experiments for longer period of treatment with the same vegetable oils to substantiate the results of this work.

Keywords:

Antioxidant compounds, Design Science Research, Chain breaking antioxidants.

1. Exordium

This section outlines the approach to this overview with some definitions and caveats associated with the designation.

1.1. Health

Logically, it seemed plausible that the integration of neural, cellular and humoral variations of their components that constitute temporal aspects of physiology manifested in body rhythms in good health are indeed a "consensus partium in tempore" (consensus of components in time) [1], which suggests that the characterization and quantification of body rhythms were different in health and disease among the adolescent or the older person, and males or females. Such age and gender differences may sanction the identification/tenacity of rhythmic changes that mark the progression of a salubrious subject to one with occult and overt abnormalities.

1.2. Older Person

We relegate this sub-heading as being part of the process of senescence (natural senescent) or senility (pre-disease or during disease), though temporal changes between the two states is often arduous to establish because of the experiment design which often fixates on the duration of study and required outcomes and confounding factors such as the inclusion/omission characteristics of the recruits to clinical tribulations (e.g., Body Mass Index (BMI), health definitions, birth cohort, etc.).

1.3. Victuals Antioxidants

Antioxidants, natural or synthetic pabulum preservatives, are

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additives that preserve aliment from “farm to plate” and militate against oxidative deterioration on storage and processing. Due to their high stability and low volatility, the antioxidants avail to maintain the caliber of nutrients, the texture, color, taste, freshness, functionality, aroma, and appeal to consumers such as the older person, *ceteris paribus*. Antioxidants are not only in aliment additives but are additionally to be found in victuals supplements and levels should be quantified, as such, in body tissues and fluids. Lesser known sources of antioxidants to that cited in reference abound, for example, ebony chokeberry (*Aronia melanocarpa*) found in juices, purees, jams, and so forth which, containing high calibers of polyphenols and flavonoids, has potential interventive value for a range of chronic diseases such as diabetes and cardiovascular diseases. Fermented grain pabulum supplements additionally contain antioxidants, e.g., Antioxidant Biofactor, truncating lipid oxidation by scavenging upon the peroxy radical.

Antioxidants are essential for animal and plant life since they are involved in intricate metabolic and signaling mechanisms. They fend plants by engendering phytoalexins, e.g., isoflavonoid structures, in replication to microbiological and fungal pathogen incursion [7]. In terms of dietary intervention, mechanisms relating to, for example, microglia senescence and neural senescence should be sought which sanction efficacious nutrient treatments to be developed in the form of e.g., functional foods and plant supplements that may develop our construal of eccentric senescence and onset of neurodegenerative diseases.

2. Factors Cognate to Alimenting of the Older Person

The impact of dietary nutrients on the health of persons of all ages is involute and multifactorial, and chemosensory, involving biology, aliment antioxidants, chronobiology, environment, culture, religion, orally consuming habits, recollection loss, intake of natural products and herbal remedies (such as phytoalexins, polyphenols, carotenoids, spices and aromatic herbs, alcoholic and non-potations), commercial and marketing hype, language, interventions (pharmacological and “non-drug”), special cuisines, nursing and domestic care (intravenous and tube victualing), primary nutrients like omega-3 adipose acids, (e.g., alpha-linolenic acid) carbohydrates (glucose-monosaccharide-energy), amino acids (tryptophan), vitamins (B12, B6, C) and trace elements. From the bio systems perspective and intervention, it is conspicuous from many clinical tribulations and

meta-analysis lead to the inversion engineering concept of the erstwhile salubrious individual's part of the heart-encephalon-mind-gut axes as well as their components (e.g., membranes, cerebral vasculature neurones, and oligodendrocytes), astrocytes and metabolomics/ microbiota. These biosystems are paramount in ameliorating disease onset or progression. From the patient care perspective, several factors (appetite, aliment appeal, disease astringency, tube victualing, gregarious interaction) are paramount as is the health of the caretaker. Some of these factors are discussed below.

Limpidly, pabulum must be appealing to the older person in presentation, texture, color taste, flavour and aroma provided olfactory function is not impaired. Non-traditional aliment/herbs may bestow benefits: even then: do the phytochemicals have the same effect when given alone or in amalgamations with other foodstuff. Flavour comprises the perception of acerbity and saccharinity in the mouth. However, perils subsist in “reward” centers in the encephalon, e.g., inordinate corpulence and metabolic syndrome though hyperplasia or hunger in patients with dementia, a process that is involute, leads to possible over- or under-victualing. Aroma volatiles of fruit, for example, are categorical to species and variety. These volatiles may contain aliphatic esters e.g., strawberries (DWW unpublished data, c2003), phenolic compounds (even in alcohol-free wine, and sesquiterpenes, etc.). In aliment, humans are exposed to aliment interactions e.g., “Advanced Glycation End Products” (proteins/lipids exposure to sugars) which are often associated with the senescent person and Alzheimer's disease.

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