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OUTLOOK 2018

**Rural FMCG market offers
better growth OPPORTUNITIES**



Minimize import duty for
nutraceutical ingredients to 5%

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“Nutrition in sports is the need of the hour”

Prof Dilip Kumar Dureha,
Vice-Chancellor, Lakshmibai National Institute
of Physical Education (LNPE), Gwalior - 34



Dr Sanjay Agrawal
Leading Pharmaceutical
Consultant and Editor-in-
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Antioxidants and Fair Skin

Who does not want healthy and glowing skin? We know we all do. The benefits of antioxidants come up naturally in discussions about beautiful skin and good health. An antioxidant is a molecule which imbues the oxidation of other molecules. Antioxidants are chemicals that transfer electrons or hydrogen from a substance to an oxidizing agent so they can prevent or slow down cell damage and provides healthy skin. Oxidation is defined as the interaction between oxygen molecules and all the different substances that may come to contact with living tissue and oxidation reaction produces free radicals.

Free radicals are atoms or group of atoms with an odd number of electrons and can be formed when oxygen interacts with certain molecule. After the formation, these free reactive radicals start a chain reaction which can cause damage or death to a cell. Antioxidants are molecules that can interact with free radicals and terminate the chain reaction before vital molecules are damaged as well as inhibit other oxidation reactions.

BENEFITS OF ANTIOXIDANTS

Any compound which can donate free radicals and terminate the actions of free radicals has antioxidant properties. Our skin is the largest organ of our body and it should be looked after very carefully. Antioxidants protect the skin by controlling the production of free radicals, which is the main reason for damage or death of a cell. Antioxidants work magically in skincare products by reducing the signs of aging.

BEST ANTIOXIDANTS

The natural antioxidants play an important role in neutralizing the harmful effects of free radicals and adding a youthful glow to skin.

Retinoic acid is one of the main forms of Vitamin A. It minimizes the appearances of wrinkles, bolster skin's

thickness and elasticity. It reduces the breakdown of collagen and lightens the spots, rough skin and suntan caused by sun exposure. For brown spots that give the skin an uneven tone, retinoids slow them off and reduce the production of melanin. Melanin is a complex polymer derived from the amino acid tyrosine. Melanin is responsible for determining skin and hair colour and is present in the skin to varying degrees; depending on



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how much a population has been exposed to the sun historically. It has been proven that retinoic acid restores the elastic fiber that helps to keep skin taut and it also helps to reduce the chance of wrinkles. Too much use of retinoic acid in too high concentrations can cause extreme dryness, redness and peeling. Retinoic acid is found in cream and gel forms and should be used once a day.

Vitamin C is an antioxidant that slows the rate of free radical damage and it is the key to avoiding scurvy. Scurvy is a disease caused by the deficiency of Vitamin C in which patients develop anemia, swelling and exhaustion in different parts of the body and it is characterized by swollen bleeding gums and the opening of previously healed wounds. Vitamin C is also known as ascorbic acid which ensures the production of collagen.

Collagen is a protein made up of amino acids and it produces almost 30% of the proteins within the body. They are found in strong structures of the body like in tendons, bones and ligaments. It helps the growth of cells and blood vessels and aids immensely to maintain the firmness and strength of the skin. Fruits for healthy skin containing Vitamin C include strawberries, pineapple, oranges, and papaya. They should be included in a perfect diet for healthy skin.

A healthy skin diet includes Vitamin E, an antioxidant that helps to protect and repair our skin. Vitamin E helps neutralize the oxidant effect of free radicals that damage collagen and is the main reason of wrinkles, fine lines and skin dryness. Vitamin E reduces the chain reaction of free radicals. Our Body can't produce Vitamin E; therefore a healthy diet for glowing skin should include foods containing Vitamin E. A glowing skin diet must include almonds, spinach, avocado, peanuts, beet greens, mustard greens that are rich in Vitamin E. These foods for healthy skin help prevent premature aging of our skin.

Green Tea exerts sun damage protection by damaging free radicals and lowers inflammation by blocking UV rays. Ultraviolet light is an electromagnetic radiation and causes "erythema" that is known as sunburn and is the main cause of skin cancer also. The absorption of energy from UV rays damage our skin cells, causing wrinkles.

When green tea is being used with a sunscreen it really effectively gives us protection from sunburn. Green Tea polyphenols reduces the development of some signs of aging because of their antioxidant and anti-inflammatory properties. Tips for healthy skin mentions the combination of green tea with zinc oxide based sunscreens as zinc oxide does not react with green tea. To get best results, freeze green tea as ice cubes and use them as toner.

Coenzyme Q10 is an antioxidant that helps to neutralize harmful free radicals that are one of the main causes of aging. It enhances the ability to produce collagen, elastin and other important skin molecules.

A HEALTHY SKIN DIET INCLUDES VITAMIN E, AN ANTIOXIDANT THAT HELPS TO PROTECT AND REPAIR OUR SKIN. VITAMIN E HELPS NEUTRALIZE THE OXIDANT EFFECT OF FREE RADICALS THAT DAMAGE COLLAGEN AND IS THE MAIN REASON OF WRINKLES, FINE LINES AND SKIN DRYNESS.

Elastin is a protein in connective tissue that is elastic allows many tissues in the body to resume their shape after stretching or contracting.

It helps skin to return to its original position when it is poked or pinched. Coenzyme Q10 is a very small molecule that can easily penetrate into skin cells. It is a natural antioxidant that our body can produce and it lowers the chance of cancer. It can be effective in treating skin aging, found in skin caring products but we should be careful while using it as it can be deactivated by oxygen from the air.

The B Vitamins are a group of water soluble vitamins, also known collectively as B complex Vitamins that play major roles with in the body including maintenance of immune system function and nervous system function. Each B vitamin has specific functions to play but they all work together to maintain a healthy life.

B complex Vitamins improve body and beauty by improving the state of our hair, skin, and nails. Vitamin B12 helps to regulate our skin's pigment production and location and also prevents hyper pigmentation. Hyper pigmentation is the darkening of an area of skin or nails caused by increased melanin. Best foods for glowing skin rich in B Vitamins include eggs, liver, milk, rice and cereals.

Resveratrol is an antimicrobial substance produced by plants in response to stress, infection or strong UV radiation. In today's life it has become immensely popular due to its powerful antioxidant and anti aging properties. The effects of resveratrol's potent antioxidant effects can be divided into two distinct levels- by preventing their formation and by scavenging existing free radicals. The antioxidant properties of resveratrol can be compared to that of 1% idebenone. Idebenone is a benzoquinone compound with strong antioxidant properties. It has therapeutic uses in age related cognitive dysfunction and skin rejuvenation and also stimulates the growth of nerves. It has been proven that it reduces the production of free radicals which are really harmful for our health and it also helps to restrict the growth of skin cancer tumors.