



LACTONOVA ANTIOXIDANT NUTRITION; Nutrition for Protection against Pollution, tobacco, cigarette smoke, drug addiction, illness, stress, alcohol, medications, trauma, cold, infections, poor diet, toxins, radiations.

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ABSTRACT

Antioxidants are our first line of defense against free radical damage, and are critical for maintaining optimum health and wellbeing. The need for antioxidants becomes even more critical with increased exposure to free radicals. Pollution, cigarette smoke, drugs, illness, stress, and even exercise can increase free radical exposure. Because so many factors can contribute to oxidative stress, individual assessment of susceptibility becomes important. Antioxidants terminate the chain reactions by removing free radical intermediates, and inhibit other oxidation reactions. They do this by being oxidized themselves, so antioxidants are often called as reducing agents. Antioxidants are widely used as ingredients in dietary supplements and have been investigated for the prevention of diseases such as coronary heart disease and even altitude sickness.

Keywords: Oxidative Stress, Human Disease, Antioxidants.

INTRODUCTION

OXIDATIVE STRESS occurs in response to excessive levels of cytotoxic oxidants and free radicals in the environment. Antioxidant is a chemical compound or substance that inhibits oxidation to protect body cells from the damaging effects of oxidation.

The term “oxidative stress” has been coined to represent a shift towards the pro-oxidants in the pro-oxidant/antioxidant balance that can occur as a result of an increase in oxidative metabolism. Increased oxidative stress at the cellular level can come about as a consequence of many factors, including exposure to alcohol, medications, trauma, cold, infections, poor diet, toxins, radiation, or strenuous physical activity. Protection against all of these processes is dependent upon the adequacy of various antioxidant substances that are derived either directly or indirectly from the diet. Consequently, an inadequate intake of antioxidant nutrients may compromise antioxidant potential, thus compounding overall oxidative stress.

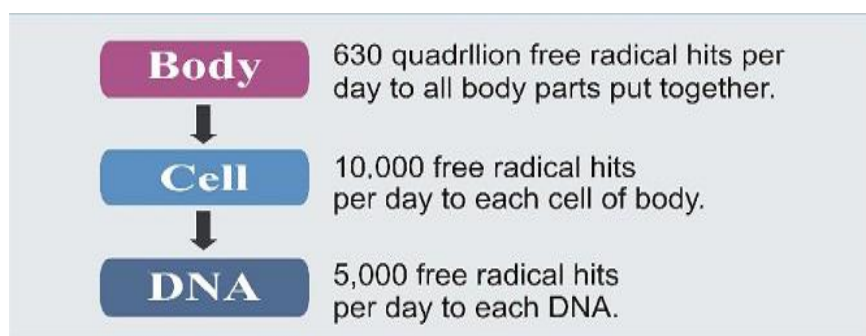


Fig 1: Oxidative Stress To Body, Cell & DNA

OXIDATIVE STRESS AND HUMAN DISEASE

Oxidative damage to DNA, proteins, and other macromolecules has been implicated in the pathogenesis of a wide variety of diseases, most notably heart disease and cancer. Clinical intervention trials suggest that antioxidants may play a pivotal role in preventing or slowing the progression of wide variety of diseases, such as heart disease and some forms of cancer.

CONDITIONS ASSOCIATED WITH OXIDATIVE DAMAGE

- Atherosclerosis
- Cancer
- Pulmonary dysfunction
- Cataracts
- Arthritis and inflammatory diseases
- Diabetes
- Shock, trauma, and ischemia
- Renal disease and hemodialysis
- Multiple sclerosis
- Pancreatitis
- Inflammatory bowel disease and colitis

HOW DO ANTIOXIDANTS OPERATE?



Fig 2: Antioxidants operate

NATURAL ANTIOXIDANTS TO NEUTRALIZE FREE RADICALS

To protect the cells and organ systems of the body against reactive oxygen species, humans have evolved a highly sophisticated and complex antioxidant protection system. It involves a variety of components, both endogenous and exogenous in origin, that function interactively and synergistically to neutralize free radicals.

ANTIOXIDANT DIET CHART

EARLY MORNING: (6:00-7:00am)

- Luke warm water
- ❖ Physical activity 1hr to 2hrs
- ❖ Green tea
- ❖ Soaked almonds-4

- Parkinson's disease
- Neonatal lipoprotein oxidation
- Drug reactions
- Skin lesion & Aging

What Are Antioxidants?

Antioxidants are found in many foods. They work to keep our cells healthy by protecting them from damage by free radicals (molecules responsible for aging, tissue damage, and some disease). Free radicals damage cells in a process called oxidation. Oxidation results from everyday body functions such as breathing or walking, but certain processed and fatty foods, toxic substances, and sunlight can increase its effects. Antioxidants help repair damaged cells, which can prevent diseases, including cancer. A diet rich in a variety of plant-based foods provides all of the antioxidants the body needs. Research shows that vitamins, minerals, and phytochemicals from whole foods interact to boost their disease-fighting effects. These nutrients benefit both healthy people and those fighting disease. This is why it is important to focus on eating nutrient-rich foods rather than focusing on a single nutrient in supplement form.

BREAKFAST: Before (9:00am)

- Idly-3, dosa-2, broken wheat upma-1cup+ chutney
- Ragi dosa-2, wheat dosa-2, green gram dosa-2, multigrain dosa-2+chutney
- Ragi malt-1cup, multi grain malt-1cup
- chapathi-2 + veg curry,
- veg salad/fruit salad-1cup + sprouts-1cup + brown bread or multi grain bread-2slice
- oats upma-1cup, oats dosa-2
 - sandwich (whole wheat bread or multi grain bread) + veg stuff or chicken stuff (No sauce, No ketchup, No mayonnaise, No cheese)

TO BE AVOIDED: deep fried items.

MID MORNING: (11:00-11:30AM)

- Dark chocolate
- Veg salad (carrot, garlic, onion, cabbage, spinach, beans, broccoli)

- Fruit salad (strawberries, blue berries, apple, tomato, orange, kiwi, avocado, grapes)
- Sprouts
- Nuts
- Green tea or lemon tea
- Dry fruits

LUNCH: (1:00-2:00PM)

- Brown rice-1cup + veg curry (paneer, tofu, rajma, mushroom, palak, tomato, soya chunks) or chicken breast-50g + green leafy veg dhal or veg dhal-1cup + curd or yogurt-1cup+egg-1
- Millet meal + veg curry or chicken curry-50g + green leafy veg dhal-1cup+ curd or yogurt -1cup+ egg-1
- Roti-2 + veg curry or chicken breast + curd or yogurt-1cup+ egg-1

Note:

- ❖ Green leafy veg weekly twice
- ❖ Non veg weekly twice
- ❖ Avoid fried curries

SNACKS: (4:00-5:00PM)

- Repeat mid morning snacks
- Sunflower seeds, pumpkin seeds, watermelon seeds, sesame seeds, almonds, cashew, pista, chironji, peas.

DINNER: (8:00-9:00) if possible before 8:00pm

- You can repeat breakfast options
- Millet roti-2 + veg curry
- Whole wheat roti-2 + veg curry

TO BE AVOIDED AT NIGHT: deep fries.

BED TIME MEAL: optional (before 1hr to sleep)

- Easily digest fruits

REFERENCES

1. Showell, M.G., Mackenzie-Proctor, R., Jordan, V. and Hart, R.J. (2017) Antioxidants for Female Subfertility. Cochrane Database of Systematic Reviews, No. 7.
2. Pham-Huy, L.A., He, H. and Pham-Huy, C. (2008) Free Radicals, Antioxidants in Disease and Health. International Journal of Biomedical Science , 4, 89-96.
3. Birben, E., Sahiner, U.M., Sackesen, C., Erzurum, S. and Kalayci, O. (2012) Oxidative Stress and Antioxidant Defense. World Allergy Organization Journal , 5, 9-19.
4. Mylonas, C. and Kouretas, D. (1999) Lipid Peroxidation and Tissue Damage. In Vivo , 13, 295-309.
5. Lobo, V., Patil, A. and Chandra, N. (2010) Free Radicals, Antioxidants and Functional Foods: Impact on Human Health. Pharmacognosy Reviews, 4, 118-126.
6. Ruder, E.H., Hartman, T.J., Blumberg, J. and Goldman, M.B. (2008) Oxidative Stress and Antioxidants: Exposure and Impact on Female Fertility. Human Reproduction Update , 14, 345-357. <https://doi.org/10.1093/humupd/dmn011>
7. Agarwal, A., Aponte-Mellado, A., Premkumar, B.J., Shaman, A. and Gupta, S. (2012) The Effects of Oxidative Stress on Female Reproduction: A Review. Reproductive Biology and Endocrinology , 10, 49.
8. Prasad, S., Tiwari, M., Pandey, A.N., Shrivastav, T.G. and Chaube, S.K. (2016) Impact of Stress on Oocyte Quality and Reproductive Outcome. Journal of Biomedical Science , 23, 36. <https://doi.org/10.1186/s12929-016-0253-4>

- Turmeric milk without sugar

NOTE

- ❖ 6-8L water per day
- ❖ 7-8hrs sleep per day
- ❖ Min 1hr physical activity
- ❖ Add more fruits and vegetables
- ❖ No white sugar
- ❖ No processed foods(biscuits, cookies, baked foods, chips)
- ❖ No sugar drinks(cool drinks)
- ❖ Limit salt
- ❖ Limit spice
- ❖ No deep fries
- ❖ Limit alcohol
- ❖ Avoid fast foods
- ❖ Avoid refined flour and white flour (maida, rice flour)

SUMMARY & CONCLUSION

Antioxidants work to keep our cells healthy by protecting them from damage by free radicals (molecules responsible for aging, tissue damage, and some disease). Free radicals damage cells in a process called oxidation. Oxidation results from everyday body functions such as breathing or walking, but certain processed and fatty foods, toxic substances, and sunlight can increase its effects. Antioxidants help repair damaged cells, which can prevent diseases, including cancer. A diet rich in a variety of plant-based foods provides all of the antioxidants the body needs. Research shows that vitamins, minerals, and phytochemicals from whole foods interact to boost their disease-fighting effects. These nutrients benefit both healthy people and those fighting disease. This is why it is important to focus on eating nutrient-rich foods rather than focusing on a single nutrient in supplement form.

Recommended Lactonova nutrition Supplements

LYCOTEN, LYCOTEN FORTE, NUTRAL-P POWDER, NUTRAL-D POWDER