

FAQ - Noni in General

1. WHAT IS FOOD SUPPLEMENT

A dietary supplement (also known as food supplement) is intended to supply nutrients, (vitamins, minerals, fatty acids or amino acids) that are missing or not consumed in sufficient quantity in a person's diet. This category may also include herbal supplements which may have added health benefit.

2. HOW NONI IS A FOOD SUPPLEMENT

Noni contain all the major and essential nutrients like all vitamins, many trace minerals or rare minerals that you are not getting in your daily diet and besides that many phytochemicals, which are very much essential for our body's various metabolic process. Hence Noni is a natural food supplement

3. WHAT IS THE BENEFIT OF FOOD SUPPLEMENT IN OUR BODY

We are not getting many essential nutrients in our diet. The absence of those essential nutrients are the root and base level cause of various diseases. Hence providing those essential nutrients you can fulfil your body nutrient demand and so can prevent many diseases. Food supplement also helps to make your immune system active and strengthen. Food supplements also provide lot of antioxidants to your body that neutralizes the bad effects of free radicals.

4. HOW FOOD SUPPLEMENT HELP IN DISEASES

Food supplement helps in many diseases like diabetes, arthritis, atherosclerosis, parkinson's diseases, and so many. It helps in so many diseases as it contain all essential nutrients which are found deficit in our body. It also neutralizes the bad effects of free radicals. Hence food supplement helps in so many diseases

5. WHAT IS ALKALOID

An **alkaloid** is, strictly speaking, a naturally occurring amine produced by a plant, but amines produced by animals and fungi are also called alkaloids. Many alkaloids have pharmacological effects on humans and other animals. The name derives from the word alkaline; originally, the term was used to describe any nitrogen-containing base. Alkaloids are usually derivatives of amino acids, and many have a bitter taste. They are found as secondary metabolites in plants (e.g. potatoes and tomatoes), animals (e.g. shellfish) and fungi

6. WHAT IS BROMELAIN ?

Bromelain is a mixture of protein-digesting enzymes found in pineapples (*Ananas comosus*). Bromelain supplements contain active substances that aid digestion and help reduce inflammation.

7. WHAT IS XERONINE ?

Xeronine is the alkaloid of Noni. It remains as proxeronine form which is the precursor of xeronine.

8. WHAT IS THE ROLE OF XERONINE IN OUR BODY

According to Ralph Heinicke is able to modify the molecular structure of proteins. Thus Xeronine has a wide range of biological activities. When a protein such as an enzyme, receptor, or signal transducer is not in the appropriate conformation, it will not work properly. Xeronine will interact with the protein and make it fold into its proper conformation. The result is a properly functioning protein. Whenever a problem arises in the cell due to a protein structural problem, Xeronine's presence would be beneficial. His hypotheses may explain why Noni can help in many health problems in different ways.

9. WHAT IS CELL RECEPTOR ?

A tiny structure on the outer surface of a cell that selectively receives and binds a specific substance like hormone, drug, antigens, antibodies, or

other cellular or immunological components. Many natural body chemicals must bind to a specific type of receptor in order to have an effect.

10. WHAT IS THE ROLE OF XERONINE FOR RECEPTOR

Receptors are made up of protein. Many receptor proteins require not only the recognized absorbed molecule- many of these are well studied hormones- but they must have a molecule of xeronine adsorbed next to the hormone.

11. WHAT IS PROSTAGLANDIN?

Any of a group of complex fatty acids present in the body that act as messenger substances between cells. Effects include stimulating the contraction of smooth muscle (for example, of the womb during birth), regulating the production of stomach acid, and modifying hormonal activity. In excess, prostaglandins may produce inflammatory disorders such as arthritis. The analgesic actions of substances such as aspirin are due to inhibition of prostaglandin synthesis.

12. WHAT IS THE ROLE OF XERONINE ON PROSTAGLANDIN REGARDING PAIN?

prostaglandin act as agonist (a substance that absorb onto a nerve receptor and sends a signal to the brain). For the nerve receptors to function, the agonist must absorb onto the appropriate receptor site, do its job and then get off the receptor so that the receptor will be ready for another agonist. Probably there are several distinct prostaglandin receptors, one for pain, one for sound perception, one for kinesthetic perception. When there is any injury to the skin prostaglandin releases abundantly that absorb into nerve receptors. When a prostaglandin pain receptor having only an adsorbed prostaglandin molecule (no xeronine) sends a signal to the brain, the brain interprets the signal as pain. If the prostaglandin-pain receptor has both an adsorbed prostaglandin and a xeronine molecule, the signal going to the brain would be no pain.

13. WHAT SRE THE VITAMINS Noni CONTAIN

Vitamin C	3-25 mg/100 g
Vitamin B1	0.003-0.01 mg/100 g
Vitamin B2	0.003-0.01 mg/100 g
Vitamin B6	0.04-0.13 mg/100 g
Vitamin B12	0.1-0.3 mcg/100 g
Folic acid	7.0-25.0 mcg/100 g
Biotin	1.5 mcg/100gm
Niacin	0.1-0.5 mg/100 g
Pantothenic acid	0.15-0.5 mg/100 g
Vitamin E	0.25-1.0 IU/100 g
Carotene (as vitamin A activity)	
Total beta carotene	18-22 IU/100 g

14. WHAT IS AMINO ACIDS

Amino Acids are the chemical units or “building blocks” of the body that make up proteins. Protein substances make up the muscles, tendons, organs, glands, nails, and hair. Growth, repair and maintenance of all cells are dependent upon them. Next to water, protein makes up the greatest portion of our body weight. Amino Acids that must be obtained from the diet are called “Essential Amino Acids” other Amino Acids that the body can manufacture from other sources are called “NonEssential Amino Acids.”

15. DOES Noni CONTAIN ANY AMINO ACIDS?

Noni contain 18 amino acids out of total 20 amino acids including all essential amino acids. The amino acids that Noni contain are -

Aspartic acid	30-77 mg/100 g
Threonine	8-11 mg/100 g
Serine	9-12 mg/100 g
Glutamic acid	25-44 mg/100 g
Proline	24-33 mg/100 g

Glycine	10-22 mg/100 g
Alanine	17-33 mg/100 g
cystine	7 – 11 mg/100g
Valine	10-22 mg/100 g
Methionine	1-4 mg/100 g
Isoleucine	7-11 mg/100 g
Leucine	10-22 mg/100 g
Tyrosine	6-11 mg/100 g
Phenylalanine	5-8 mg/100 g
Histidine	4-6 mg/100 g
Lysine	7-11 mg/100 g
Arginine	30-44 mg/100 g
Tryptophan	1-3 mg/100 g

16. WHAT IS ESENTIAL AMINO ACIDS? DOES NONI CONTAIN ALL ESSENTIAL AMINO ACIDS?

The amino acids are those that are necessary for good health but cannot be synthesized by the body and so must be found in diet. There are ten amino acids generally considered essential for humans, including tryptophan, which is necessary for the body to create the neurotransmitters serotonin and melatonin. All essential amino acids can be found in vegetables, although care is needed to ensure proper levels in a strict vegetarian diet.

Yes Noni contain all the essential amino acids.

17. WHAT TS ESSENTIAL FATTY ACIDS? DOES Noni CONTAIN ALL ESSENTIAL FATTY ACIDS?

The main components of all fats are the fatty acids which might be saturated, monounsaturated or polyunsaturated. Fats containing a high proportion of saturated fatty acids are solid at room temperature. These are commonly known as saturated fats and are usually derived from animal sources e.g. lard, suet and butter. Most plant fats are high in either polyunsaturated or monounsaturated fats except palm and coconut fat which is highly saturated.

Saturated and monounsaturated fats are not necessary in the diet as they can be made in the human body.

Two polyunsaturated fatty acids (PUFAs) that cannot be made in the body are linoleic acid and alpha-linolenic acid. They must be provided by diet and are known as essential fatty acids. Within the body both can be converted to other PUFAs such as arachidonic acid, or eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

In the body PUFAs are important for maintaining the membranes of all cells; for making prostaglandins which regulate many body processes which include inflammation and blood clotting. Another requirement for fat in the diet is to enable the fat-soluble vitamins A, D, E and K to be absorbed from food; and for regulating body cholesterol metabolism

Yes Noni contain the two essential fatty acids.

18. WHAT DOES MEAN PHYTOCHEMICALS?

Phytochemicals are non-nutritive plant chemicals that have protective or disease preventive properties. There are more than thousand known phytochemicals. It is well-known that plant produces these chemicals to protect itself but recent research demonstrates that they can protect humans against diseases. are the plant chemicals that protect the plant from various diseases. These are known as plant immunity. Those phytochemicals have a strong role in human immunity too

19. HOW PHYTOCHEMICAL WORKS?

There are many phytochemicals and each works differently. These are some possible actions:

Antioxidant - Most phytochemicals have antioxidant activity and protect our cells against oxidative damage and reduce the risk of developing certain types of cancer. Phytochemicals with antioxidant activity: allyl sulfides (Noni, onions, leeks, garlic), carotenoids (noni, carrots), flavonoids (Noni,fruits, vegetables), polyphenols (Noni, tea, grapes).

Hormonal action - Isoflavones, found in noni, imitate human estrogens and help to reduce menopausal symptoms and osteoporosis.

Stimulation of enzymes - Indoles, which are found in cabbages, stimulate enzymes that make the estrogen less effective and could reduce the risk for breast cancer. Other phytochemicals, which interfere with enzymes, are protease inhibitors (Noni, soy and beans), terpenes (Noni, citrus fruits and cherries).

Interference with DNA replication - Saponins found in Noni interfere with the replication of cell DNA, thereby preventing the multiplication of cancer cells.

Anti-bacterial effect - The phytochemical from Noni has anti-bacterial properties.

Physical action - Some phytochemicals bind physically to cell walls thereby preventing the adhesion of pathogens to human cell walls. Proanthocyanidins are responsible for the anti-adhesion properties of Noni, cranberry. Consumption of cranberries, Noni will reduce the risk of urinary tract infections and will improve dental health.

20. WHAT DOES MEAN NUTRACEUTICALS?

The term “nutraceutical” was coined from “nutrition” and “pharmaceutical” in 1989 by Stephen DeFelice, MD, founder and chairman of the Foundation for Innovation in Medicine (FIM), Cranford, NJ. According to DeFelice, nutraceutical can be defined as, “a food (or part of a food) that provides medical or health benefits, including the prevention and/or treatment of a disease.”

21. WHAT DOES MEAN MICRONUTRIENTS?

Micronutrients are nutrients needed for life in small quantities. They include chemical elements and chemical compounds such as minerals and vitamins. Called *micronutrients* because they are needed only in minuscule amounts,

these substances are the “magic wands” that enable the body to produce enzymes, hormones and other substances essential for proper growth and development. As tiny as the amounts are, however, the consequences of their absence are severe. Iodine, vitamin A and iron are most important in global public health terms

22. WHAT IS TRACE ELEMENT OR MICROMINERALS?

Trace elements or microminerals include at least iron, cobalt, chromium, copper, iodine, manganese, selenium, zinc, and molybdenum. They are dietary minerals needed by the human body in very small quantities (generally less than 100mg/day) as opposed to macrominerals which are required in larger quantities

23. WHAT ARE THE PHYTOCHEMICALS IN Noni ?

Major phytochemicals in Noni are Flavonoids, Noni PPT (Polysaccharides), Scopoletin, Anthraquinones. Anthraquinone is an organic compound. The color pigment of the plant is the derivative of anthraquinone. The various anthraquinone compounds present in Indian Noni are Damnacanthal, Morindone, Rubiadin and rubiadin-1-methyl ether, Anthraquinone glycoside, Alizarin

Phytosterols are one type of phytochemicals. The important phytosterols found in Indian Noni are β -sitosterol, campesterol, stigmasterol

Other phytochemicals present in Noni are Limonene, Ursolic acid

24. WHAT ARE FREE RADICALS?

An atom consists of a nucleus containing neutrons, protons and outside the nucleus electrons are present. The number of protons (positively charged particles) in the atom's nucleus determines the number of electrons (negatively charged particles) surrounding the atom. Electrons are involved in chemical reactions and are the substance that bonds atoms together to

form molecules. Electrons surround, or “orbit” an atom in one or more shells. Electrons are always present in their orbit in paired form.

When one electron from the outer sphere of the atom gets lost then it does not remain in paired form. The atom having unpaired electron in its outer orbit is called of an atom is called free radical. It always tries to gain its missing electron by attacking other molecules. Hence free radical attack carbohydrate molecule, fat molecule, protein molecule and other molecules to fulfill its missing electron. In other way a radical (also called a “free radical”) is a clusters of atoms one of which contains an paired electron in its outermost shell of electrons. This is an extremely unstable configuration, and radicals quickly react with other molecules or radicals to achieve the stable configuration.

25. WHAT IS OXIDANT OR REACTIVE OXYGEN SPECIES (ROS)

Oxygen radical or reactive oxygen species are molecules or ions formed by the incomplete one-electron reduction of oxygen. These reactive oxygen intermediates include singlet oxygen; superoxides; peroxides; hydroxyl radical; and hypochlorous acid. They contribute to the microbicidal activity of phagocytes, regulation of signal transduction and gene expression, and the oxidative damage to nucleic acids; proteins; and lipids.

26. WHAT ARE THE CAUSE OF FREE RADICAL FORMATION

The causes of free radical formation are excessive exercise, excessive stress either mental or physical, atmospheric pollution, cigarette smoke, ultraviolet ray of sunlight, medication and radiation etc

27. WHAT ARE THE EFFECT OS FREE RADICAL IN OUR BODY

Free radical damages the protein and lipid molecules of cell membrane and makes the cell membrane hard due to the damage of phospholipids layers. Free radicals damage the DNA of the cell and thus converted the cell to a cancer cell. It damages the carbohydrate and protein molecules of

mitochondria and thus blocks its function. Hence various diseases originate due to free radical damaging effects.

28. WHAT IS LIPID PEROXIDATION

Free radical damage of phospholipids layer of cell membrane is called lipid peroxidation.

29. WHAT DOES MEAN ANTIOXIDANT?

Antioxidants are molecules that can neutralize free radicals by accepting or donating an electron to eliminate the unpaired condition. Typically this means that the antioxidant molecule becomes a free radical in the process of neutralizing a free radical molecule to a non-free-radical molecule. But the antioxidant molecule will usually be a much less reactive free radical than the free radical neutralized. The antioxidant molecule may be very large (allowing it to “dilute” the unpaired electron), it may be readily neutralized by another antioxidant and/or it may have another mechanism for terminating its free radical condition.

So any substance that reduces oxidative damage (damage due to oxygen) such as that caused by free radicals is called antioxidants. Free radicals are highly reactive chemicals that attack molecules by capturing electrons and thus modifying chemical structures. Antioxidants are substances or nutrients in our foods which can prevent or slow the oxidative damage to our body. When our body cells use oxygen, they naturally produce free radicals (by-products) which can cause damage. Antioxidants act as “free radical scavengers” and hence prevent and repair damage done by these free radicals.

Health problems such as heart disease, macular degeneration, diabetes, cancer etc are all contributed by oxidative damage. Antioxidants is not a single substances. Some nutrients and micronutrients are considered under antioxidants like vitamin C, E, betacarotenoids are antioxidant vitamins. Zinc, copper, selenium are antioxidant trace minerals. All phytochemicals have antioxidant properties.

30. IS THERE ANY ANTIOXIDANT SYSTEM IN OUR BODY? IF SO WHAT ARE THEY?

Yes in our body there are antioxidant enzymes. Our body produces several antioxidant enzymes, including superoxide dismutase (SOD), catalase, and glutathione peroxidase, that neutralize many types of free radicals.

31. DOES NONI ACTS LIKE AN ANTIOXIDANTS? IF SO HOW?

Yes Noni is a very powerful antioxidants. Because –

☞ It contains all the antioxidant vitamins – Vitamin A,C,E & Betacaroteniod

☞ It contains all the antioxidant trace minerals

☞ It contains more than 150 phytochemicals- All the phytochemicals are very effective antioxidants.

☞ There are certain enzymes secreted in our body those act as anti oxidant enzyme. Those are Glutathione peroxidase, super oxide dismutase, catalase. Those enzymes help naturally to netralises the free radicals effect in our cells. Noni enhances the release of those enzymes in our body.

Hence Indian Noni is very effective ANTIOXIDANTS.

32. WHAT IS THE IMMUNE SYSTEM AND WHAT DOES IT DO?

The immune system is the body's defense against infectious organisms and other invaders. Through a series of steps called the **immune response**, the immune system attacks organisms and substances that invade our systems and cause disease. The immune system is made up of a network of cells, tissues, and organs that work together to protect the body.

The cells that are part of this defense system are white blood cells, or **leukocytes**. They come in two basic types (more on these below), which combine to seek out and destroy the organisms or substances that cause disease.

Leukocytes are produced or stored in many locations throughout the body, including the thymus, spleen, and bone marrow. For this reason, they are called the **lymphoid** organs. There are also clumps of lymphoid tissue throughout the body, primarily in the form of lymph nodes, that house the leukocytes.

The leukocytes circulate through the body between the organs and nodes by means of the **lymphatic vessels**. (You can think of the lymphatic vessels as a type of highway between the rest stops that are the lymphoid organs and lymph nodes). Leukocytes can also circulate through the blood vessels. In this way, the immune system works in a coordinated manner to monitor the body for substances that might cause problems.

There are two basic types of leukocytes:

☞ The **phagocytes** are cells that chew up invading organisms.

☞ The **lymphocytes** are cells that allow the body to remember and recognize previous invaders.

There are a number of different cells that are considered phagocytes. The most common type is the **neutrophil**. Neutrophils primarily fight bacteria. So when doctors are worried about a bacterial infection, sometimes they order a blood test to see if a patient has an increased number of neutrophils triggered by the infection. Other types of phagocytes have their own jobs to make sure that the body responds appropriately to a specific type of invader.

There are two kinds of lymphocytes: the **B lymphocytes** and the **T lymphocytes**. Lymphocytes start out in the bone marrow and either stay there and mature into B cells, or they leave for the thymus gland, where they mature into T cells. B lymphocytes and T lymphocytes have separate jobs to do: B lymphocytes are like the body's military intelligence system, seeking out their targets and sending defenses to lock onto them. T cells are like the soldiers, destroying the invaders that the intelligence system has identified. Here's how it works.

A foreign substance that invades the body is called an **antigen** (pronounced: **an-tih-jun**). When an antigen is detected, several types of cells work together to recognize and respond to it. These cells trigger the B lymphocytes to produce antibodies. Antibodies are specialized proteins that lock onto specific antigens. Antibodies and antigens fit together like a key and a lock.

Once the B lymphocytes have produced antibodies, these antibodies continue to exist in a person's body. That means if the same antigen is presented to the immune system again, the antibodies are already there to do their job. That's why if someone gets sick with a certain disease, like chickenpox, that person typically doesn't get sick from it again. This is also why we use immunizations to prevent getting certain diseases. The immunization introduces the body to the antigen in a way that doesn't make a person sick, but it does allow the body to produce antibodies that will then protect that person from future attack by the germ or substance that produces that particular disease.

Although antibodies can recognize an antigen and lock onto it, they are not capable of destroying it without help. That is the job of the T cells. The T cells are part of the system that destroys antigens that have been tagged by antibodies or cells that have been infected or somehow changed. (There are actually T cells that are called "killer cells"). T cells are also involved in helping signal other cells (like phagocytes) to do their jobs.

Antibodies can also neutralize toxins (poisonous or damaging substances) produced by different organisms. Lastly, antibodies can activate a group of proteins called **complement** that are also part of the immune system. Complement assists in killing bacteria, viruses, or infected cells.

All of these specialized cells and parts of the immune system offer the body protection against disease. This protection is called immunity. Humans have three types of immunity - innate, adaptive, and passive.

Innate Immunity

Everyone is born with innate (or natural) immunity, a type of general protection that humans have. Many of the germs that affect other species don't harm us. For example, the viruses that cause leukemia in cats or distemper in dogs don't affect humans. Innate immunity works both ways because some viruses that make humans ill - such as the virus that causes HIV/AIDS - don't make cats or dogs sick either.

Innate immunity also includes the external barriers of the body, like the skin and mucous membranes (like those that line the nose, throat, and gastrointestinal tract), which are our first line of defense in preventing diseases from entering the body. If this outer defensive wall is broken (like if you get a cut), the skin attempts to heal the break quickly and special immune cells on the skin attack invading germs.

Adaptive Immunity

We also have a second kind of protection called adaptive (or active) immunity. This type of immunity develops throughout our lives. Adaptive immunity involves the lymphocytes (as in the process described above) and develops as children and adults are exposed to diseases or immunized against diseases through vaccination.

Passive Immunity

Passive immunity is "borrowed" from another source and it lasts for a short time. For example, antibodies in a mother's breast milk provide an infant with temporary immunity to diseases that the mother has been exposed to. This can help protect the infant against infection during the early years of childhood.

Everyone's immune system is different. Some people never seem to get infections, whereas others seem to be sick all the time. As a person gets older, he or she usually becomes immune to more germs as the immune

system comes into contact with more and more of them. That's why adults and teens tend to get fewer colds than children - their bodies have learned to recognize and immediately attack many of the viruses that cause colds.

33. WHAT IS CYTOKINES

Cytokines are a group of proteins and peptides that are used in organisms as signaling compounds. These chemical signals are similar to hormones and neurotransmitters and are used to allow one cell to communicate with another. The cytokine family consists mainly of smaller water-soluble proteins and glycoproteins (proteins with an added sugar chain). While hormones are released from specific organs into the blood and neurotransmitters are released by nerves, cytokines are released by many types of cells. They are particularly important in both innate and adaptive immune responses. Due to their central role in the immune system, cytokines are involved in a variety of immunological, inflammatory and infectious diseases. However, not all their functions are limited to the immune system, as they are also involved in several developmental processes during embryogenesis.

Cytokines are produced by a wide variety of cell types (both haemopoietic and non-haemopoietic) and can have effects on both nearby cells or throughout the organism. Sometimes these effects are strongly dependent on the presence of other chemicals and Cytokines

34. DOES NONI HELP TO OUR IMMUNE SYSTEM? IF YES THEN HOW?

Noni modify our immune system as Noni has immune modulatory effect.

✍ NONI increases the production of many cytokines like interleukin-1beta (IL-1), IL-10, IL-12, inter feron-gamma (IFN-), tumor necrosis factor. (TNF)

✍ It raises the T cell count of immune system.

✍ It raises the NK Cell in your body.

✍ A group of researcher observed that the thymus in animals treated with Noni was enlarged. The thymus is an important immune organ in the body, which generates T cells, involved in the aging process and cellular immune functions. Noni may enhance immune function by stimulating thymus growth, and thus affecting anti-aging and anticancer activities, and protecting people from other degenerative disease

FAQ – Cancer and Noni

1. WHAT EXACTLY IS CANCER ?

Cancer is the uncontrolled growth and spread of abnormal cells. These rogue cells invade and destroy healthy tissues around them.

2. WHAT CAUSES CANCER ?

For cells to turn cancerous, some of their genes(DNA) must be damaged through mutation. People may inherit mutations that predispose them to cancer, but damage to genes happens during life too - when cells are exposed to carcinogens such as tobacco, for example. But cells do not easily turn cancerous:

3. HOW DOES CANCER DEVELOP IN THE BODY ?

Once a cell has transformed into a cancerous state, it begins to divide and multiply. In most cancers, these cells form a lump, or tumour, that can invade surrounding tissue. The tumour puts pressure on healthy cells around it, and may also secrete enzymes to break down that tissue.

By the time a tumour is detected, it will contain billions of cells. Cancerous cells produce growth factors that stimulate blood vessels to grow near them, enabling the tumour to build itself a nourishing blood supply. At later stages of the disease, cells break off the tumour and spread via blood or lymph vessels to seed secondary tumours in other parts of the body.

4. WHAT FACTORS MAY INCREASE MY RISK OF DEVELOPING CANCER ?

Cancer is rarely triggered by a single factor. It usually results from an interplay between environmental factors - such as carcinogens or viruses - on one hand, and factors within the body - such as hormones and inherited genes - on the other. Researchers estimate that a further one-third of cancer deaths can be blamed on other “lifestyle” factors, such as diet and obesity.

5. WHAT IS ANGIOGENESIS ?

When a cancer tumor grows it develops a network of vessels around its body through which it gets its nutrients and grows well. This happens because due to its large size the blood vessels can not reach to all parts so it develops its own blood vessels around its body to get the nutrients for proper growth. That process is called angiogenesis.

6. WHAT IS THE EFFECT OF NONI ON ANGIOGENESIS PROCESS OF CANCER ?

Dissolve the network of blood vessels formed during angiogenesis process and thus block the nutrients supply to the cancer tumor. That process is called anti angiogenesis process. Thus exhibit ANTIANGIOGENESIS effect on cancer tumor.

7. WHAT IS THE BENEFIT OF ANTIANGIOGENESIS EFFECT OF NONI TO CANCER TUMOR

✍ The development of antiangiogenesis process after taking Noni disrupts vascular network around the cancer tumor.

✍ By this way the cancer tumor does not get its nutrients to grow properly.

✍ Hence it gradually shrinks and dies.

✍ Cancer cells also spread from one part to other through the vessels of angiogenesis. Anti angiogenesis thus helps to prevent the spread of cancer to distant parts.

8. WHAT ARE THE PHYTOCHEMICALS PRESENT IN NONI THAT CAUSE ANTIANGIOGENESIS EFFECT?

Damnacanthol, Alizarin, Limonene, Epigallocatechin gallate (EGCG) etc

9. WHAT IS CANCER DNA ADDUCT FORMATION ?

Any cancer producing material (carcinogens) or a free radical first attaches with the DNA of the cell and damages it. This attachment of carcinogen or free radical to DNA of cell is called DNA adduct formation.

10. HOW NONI HELP IN REGARD TO CANCER DNA ADDUCT FORMATION ?

Noni prevents the attachment of cancer producing material or free radical to the DNA of the cell. Hence protects the DNA from their damaging effect and thus save the cell from converting to cancer cell. So Noni prevents the cancer DNA – ADDUCT formation

11. HOW NONI PREVENTS THE CANCER DNA ADDUCT FORMATION ?

- ✍ High antioxidant property prevents the DNA-ADDUCT formation
- ✍ Limonene and others phytochemicals prevents the DNA-ADDUCT formation
- ✍ Noni stimulates more melatonin hormone from the pineal body present in brain. The high melatonin level in blood prevents the DNA adduct formation.

12. WHAT ARE THE OTHERS WAY NONI HELP IN CANCER ?

- ✍ Noni can be used as a supplemental cancer treatment. enhances the absorption of cancer drugs (chemo) more effectively into the cancer cells.
- ✍ Noni kills the cancer cells by stimulating body's immune system. Noni enhances the release of various immune system related proteins in our body that strengthen our immune system to fight against cancer. Those are interleukin (IL-1,IL-2, IL-10),interferon gama, tumor necrosis factor (TNF), natural Killer cells (NK)

13. DOES NONI HELPS IN ALL CANCER OR TO ANY SPECIFIC CANCER ?

Noni helps in all cancer. Because it helps to enhances the immunity power of the cancer patient and also helps in many way in prevention purposes. There are over 150 known nutraceuticals in Noni juice. Of these some have been shown in scientific studies to fight cancer. It helps in all type of cancer.

14. DOES IT EFFECTIVE IN EVERY STAGE OF CANCER OR ANY PERTICULAR STAGE?

There are two phase to cancer. The first phase involves damage to DNA, which can be caused by any number of factors, including carcinogens. Carcinogen attack the DNA of the exposed cells. The damage can result in cancer. Not every one who is exposed to carcinogens contracts cancer; however, the greater the exposure the greater the risk. The second phase of cancer involves uncontrolled growth. Damaged DNA alone does not cause cancer because our cells actually have a mechanism in place that counteracts damaged DNA. When a cell detects damaged or defective DNA it will cut off the bad part and replace it with the correct sequence. How ever if the damaged DNA sequence is not cut out, or is improperly repaired, the cell can turn cancerous.

Noni helps in 1st phase from damage to DNA by its property to prevent carcinogen DNA Adduact formation on cell. In 2nd pahse it helps in checking the cancerous tumor growth by its property of antiangiogenesis. Noni also contain many nutraceuticals like dmnacanthal, alizarin that are having anticarcinogenic effects. Noni is a powerful immune ehnanacer. NONI-ppt, the polysaccharide rich substances present in NONI develop an anti-tumor response by stimulating the release of various cytokines mediator of the immune system of our body like Interleukin, Interferon – gamma, Nitric oxide, Tumor necrosis factor, Natural killer cells.

Hence Noni can be used as primary prevention, secondary prevention, supplemental to cancer treatment as an immune enhancer, reduction of chemo side effects.

15. CAN ANY ONE USE NONI WITH HIS/HER USUAL CANCER TREETMENT? DOES IT EFFECTIVENESS REMAIN INTACT IF TAKEN WITH CANCER MEDICINES ?

Yes every body should use noni with their regular cancer treatment. Many phytochemicals and the xeronine, the alkaloid of Noni helps in increasing

the cancer cell membrane permeability to chemo agents. Thus potentiate the pharmacological action of medication.

Experimental studies on mice showed the synergistic or additive beneficial effects, in the form of improved survival time of those mice and better curative effects, when NONI was combined with sub optimal doses of the standard chemotherapeutic agent, adriamycin (Adrio), Cisplatin (CDDP), 5-fluorouracil (5-FU), mitomycin – C, bleomycin, etoposide, vincristine or camptothecin. It suggests the important clinical application of Noni as a supplemental agent on cancer treatment

No the effectiveness of Noni will not hampered if is given with the cancer treatment. Rather Noni helps to potentiate the pharmacological action of medication

16. WHAT THE DOES SHOULD BE IN CANCER TREATMENT

Recommended Doses:

10 ml 12 hourly 2 times in a day for 2days. Then
15 ml 12 hourly 2 times in a day for next 2 days. Then
15 ml 6 hourly 3 times in a day for next 4 days. Then
15 ml 4 hourly 4 times in a day for next 4 days. Then
20 ml 4 hourly 4 times in a day for next 5 days. Then
25 ml 4 hourly 4 times in a day for next 8 days. Then
30 ml 4 hourly 4 times in a day for next 1 month. Then
20 ml 4 hourly 4 times in a day for next 2 month. Then
20 ml 6 hourly 3 times in a day for next 3 months. Then
20ml 12 hourly 2times in a day for next 6 months

17. IN CASE OF CANCER CAN IT BE USED BOTH IN EXTERNAL AND INTERNAL ?

Yes Noni can be used both external and internal for cancer case. For internal purposes dose is as above. For external purposes a cotton is dipped with noni and apply that over the region.

18. HOW MANY DAYS ONE CAN USE NONI TO GET CURE FROM THE CANCER ?

It depends upon the intensity of the disease. Some are getting effective result within a week, some within a few months. But it should be continue for minimum 10 to 12 months.

19. DOES IT HELP IN COMBACTING THE SIDE EFFECTS OF CHEMOTHERAPY IF ANY BODY USE AFTER CANCER TREATMENT

Yes definitely. As it is an immune enhancer and having high power anti oxidant properties and contains all the vitamins, minerals and 150 above micronutrients hence it is very much helpful to combat the drug induced side effects in cancer. **Noni contain a mixture of Anthraquinone, organic acids, xeronine, several vitamins (such as beta-carotene, niacin, riboflavin, thiamine etc), some minerals, iron and calcium. The potassium content of Noni is very high. It is a powerful antioxidant. Thus this natural product, INDIAN NONI JUICE, can be used to reduce the side effects of cancer treatments.** High potassium contain of Noni relieves the malignant cachexia syndromes in cancer. The Xeronine, the alkaloid of NONI enhances the cell permeability for intracellular absorption of K and prevents the formation of lactic acid from glucose, thus helps in relieving the malignant cachexia symptoms in cancer patient

20. IS THERE ANY FOOD OR ANY THING RESTRICTION DURING NONI FOR MY CANCER

NO there is not any restriction in respect to food or diet or medication when you are using NONI for your cancer. Yes you should take NONI in a perticular time daily with a relax mood and bringing positive thinking in your mind. You can take Noni adding either cooled water or milk, or fruit juice. Must take suffecent water throughout the day, minimum 4 to 5 litres per day.

FAQ – Diabetes and Noni

1. WHAT ARE THE TYPES OF DIABETES?

Diabetes is two types

Type – 1 diabetes. That is called insulin dependant diabetes mellitus.

Type 1 diabetes mellitus results from the body's failure to produce insulin, the hormone that "unlocks" the cells of the body, allowing glucose to enter and fuel them. Type 1 diabetes is usually diagnosed in children and young adults, and was previously known as juvenile diabetes. In type 1 diabetes, the body does not produce insulin.

In 1 diabetes the cells in the pancreas that make insulin are destroyed, causing a severe lack of insulin. This is thought to be the result of the body attacking and destroying its own cells in the pancreas - known as an autoimmune reaction

Type – 2 diabetes. That is called non-insulin dependant diabetes mellitus.

Type 2 diabetes mellitus results from insulin resistance (a condition in which the body fails to properly use insulin), combined with relative insulin deficiency. Type 2 diabetes is the most common form of diabetes. In type 2 diabetes, either the body does not produce enough insulin or the cells ignore the insulin.

Type 2 diabetes is believed to develop when:

✍ The receptors on cells in the body that normally respond to the action of insulin fail to be stimulated by it - this is known as insulin resistance. In response to this more insulin may be produced, and this over-production exhausts the insulin-manufacturing cells in the pancreas;

✍ there is simply insufficient insulin available;

✍ and the insulin that is available may be abnormal and therefore doesn't work properly.

2. DOES DIABETES OCCUR TO CHILDREN? CAN NONI HELP IN THIS CASE?

Yes diabetes can occur in children. It is called juvenile diabetes. It is a Type – 1 diabetes where the body does not produce insulin.

Yes Noni helps to certain extent in case of type – 1 diabetes (as testimonial result show).

Research has shown that if the immune system starts to turn on itself - perhaps the result of an autoimmune disorder - it may cause a complete obliteration of the pancreas' beta cells or at least a reduction in the number of functioning beta cells. This then affects the amount and purity and effectiveness of the body's insulin. However, if the immune system is able to ward off an attack, the integrity of the body's insulin will be maintained. Doctors and researchers suggest that Noni has the ability to help strengthen the immune system which, in turn, can help the body maintain strong insulin levels. As a result, many Type I and II diabetics have finally found relief from this often deadly disease in the form of Noni.

One of the Noni's effects is on the pancreas and immune system. Current studies have revealed that Noni may help promote a healthy immune system or by either enhancing an already functioning system or by stimulating a sluggish one. Noni activating our body immune system may improve the non functioning beta cells of the pancreas to an active form to produce the normal insulin from the beta cells and also maintain a normal insulin level in the blood to the response of the carbohydrate diet.

3. IS DIABETES CURABLE? DOES NONI CURE DIABETES?

It can not be said that diabetes is incurable for whole life as all thinks. Yes the blood sugar can be maintained within the normal range and the diabetes can be well managed for ever if you are under Noni. Noni has the ability to

help strengthen the immune system which, in turn, can help the body maintain strong insulin levels. As a result, many Type I and II diabetics have finally found relief from this often deadly disease in the form of Noni.

Many of the effects of diabetes can be controlled. While there is no cure for the disease, Noni helps to maintain the blood sugar level within the normal range and studies show that by keeping one's blood sugar as close to normal as possible significantly reduces diabetes' long-term complications also.

4. HOW MANY DAYS I SHOULD TAKE NONI TO CURE MY DIABETES?

Diabetes is a disease where many factors play the role. In type – 1 diabetes the beta cell does not able to produce insulin due to the auto immune reaction inside our body. In type-2 diabetes the insulin receptor in peripheral cell membrane is inactive to work for intra-cellular carbohydrate infusion. The insulin which is produced is an inactive form so can not function properly to play the role of carbohydrate metabolism process. The receptors on cells in the body that normally respond to the action of insulin fail to be stimulated by it - this is known as insulin resistance. In response to this more insulin may be produced, and this over-production exhausts the insulin-manufacturing cells in the pancreas. There is simply insufficient insulin available and the insulin that is available may be abnormal and therefore doesn't work properly.

So in all in the cases the immune system and insulin condition plays the important role for diabetes.

Noni helps to stimulate the non functioning immune system to an active form and modulate the immune system to work perfectly in case diabetes. Noni has the ability to help strengthen the immune system which, in turn, can help the body maintain strong insulin levels. As a result, many Type I and II diabetics have finally found relief with the use of Noni.

So in diabetes any one should take the NONI to strength his immune system. Xeronine and other nutraceuticals present in Noni may convert the abnormal

inactive insulin molecule present in type 2 diabetes mellitus to an active form by modifying its cell rigidity and functional level to maintain its normal function of carbohydrate metabolism in our body. Noni activating our body immune system may improve the non functioning beta cells of the pancreas to an active form to produce the normal insulin from the beta cells and also maintain a normal insulin level in the blood to the response of the carbohydrate.

So for whole this process to activate the non functioning immune system to an active form it require a long term use of Noni. It depends upon individual to individual as all have not similar constitution to respond same to the use of Noni. As noni is not any specific medicine to just reduce the blood sugar but it helps to improve the condition from the root level in various way so that helps in case of diabetes.

5. NONI CONTAIN CARBOHYDRATE, SO IF A DIABETIC PATIENT IS TAKING NONI WILL IT INCREASES THE BLOOD GLUCOSE RATHER TO DECREASE?

Not at all. Carbohydrate contain of Noni have Glycemic Index value. A 3:1 ratio of carbohydrates to fiber in Noni juice helps balance blood glucose level. Glycemic index refers to a method of classification by which a number is assigned to foods based on how they affect blood sugar levels. Foods that contain the same amount of total carbohydrate may have a different glycemic index. For example kidney beans increase blood sugar levels more significantly than Soya beans, because of its higher glycemic value. Noni has a very low glycemic index and hence it reduces the risk of chronic conditions of diabetics

Secondly the carbohydrate contain of Noni is 9 to 11 gm in 100 gm of concentrated Noni. So if a diabetic patient is taking the Noni in its usual dose of 10 ml twice in a day then the total carbohydrate contain is below 1 gm per dose. So it will not increase the glucose level in blood.

6. HOW MUCH AMOUNT OF NONI I SHOULD TAKE DAILY FOR MY DIABETES CASE.

Doses : 5ml morning and 5ml evening for 3 days Then
10ml morning and 10ml evening for next 3 days Then
15ml morning and 15ml evening for next 8 months.

7. HOW NONI HELPS IN DIABETES?

Research has shown that if the immune system starts to turn on itself - perhaps the result of an autoimmune disorder - it may cause a complete obliteration of the pancreas' beta cells or at least a reduction in the number of functioning beta cells. This then affects the amount and purity and effectiveness of the body's insulin. However, if the immune system is able to ward off an attack, the integrity of the body's insulin will be maintained. Doctors and researchers suggest that Noni has the ability to help strengthen the immune system which, in turn, can help the body maintain strong insulin levels. As a result, many Type I and II diabetics have finally found relief from this often deadly disease in the form of Noni.

Xeronine, the alkaloid of Noni in the presence of insulin activate the peripheral cell membrane insulin receptors and helps for the normal intracellular absorption of glucose as well as corrects the intracellular post receptor defect of the action of insulin for carbohydrate metabolism and thus prevents the insulin resistance condition in diabetes cases.

Noni is believed to fortify and maintain the cell structure; this can be accomplished by Noni acting as an adaptogens that can aid "sick" cells in repairing themselves. Xeronine and other nutraceuticals present in Noni may convert the abnormal inactive insulin molecule present in type 2 diabetes mellitus to an active form by modifying its cell rigidity and functional level to maintain its normal function of carbohydrate metabolism in our body.

One of the Noni's effects is on the pancreas and immune system. Current studies have revealed that Noni may help promote a healthy immune system or by either enhancing an already functioning system or by stimulating a

sluggish one. Noni activating our body immune system may improve the non functioning beta cells of the pancreas to an active form to produce the normal insulin from the beta cells and also maintain a normal insulin level in the blood to the response of the carbohydrate diet.

Noni might have the role by modifying our body immune system keeps the sensitivity of beta cells of the pancreas intact to produce an adequate amount of insulin in response to elevated blood glucose level by keeping and maintain the balance of release of the neuro-endocrine signals of the brain.

8. IF I TAKE NONI ONLY FOR MY DIABETES WILL IT HELP TO REDUCE THE BLOOD SUGAR LIKE MEDICINE?

Noni helps to maintain the blood sugar level by working in root level. It helps to modulate our immunity system to correct the causative factor of diabetes in its base level. It does not simply reduce the blood sugar as medication. As it is just a natural nutritional supplements hence not only improve the diabetes but also improve the body as a whole and keeps some one healthy as in true sense. Yes it is needed to continue Noni for a longer period.

9. IF I TAKE NONI WITH MY REGULAR DIABETES MEDICINE WILL IT REDUCE MY BLOOD SUGAR BELOW NORMAL?

You should start Noni with your as usual diabetic medicine in the beginning and monitor your blood glucose level in a certain interval of days. Then gradually tamper the medication and only continue Noni for a longer period. In the beginning you should start with minimum intake like 5 ml twice in a day and after observing your blood glucose level gradually increase the intake of Noni.

10. HOW MANY DAYS I SHOULD TAKE NONI WITH MY REGULAR DIABETIC MEDICINE?

In the beginning you start intake of Noni with your usual diabetic medicine and monitor your glucose level in a certain interval of time. Gradually

tamper the diabetic medication observing your blood glucose level and only stay on Noni intake. It depends upon person to person.

11. IF I AM TAKING NONI FOR MY DIABETES THEN CAN I TAKE SUGAR WITHOUT ANY FEAR?

NO. You should restrict your carbohydrate diet consumption.

12. ARE THERE ANY SIDE EFFECTS OF NONI IF I CONTINUE FOR MY DIABETES?

There are no side effects as it just a natural nutritional supplement not any medicine. Medicines have side effects but as it is just a natural food supplement hence there are no side effects only good effects.

13. WHY NONI IS NOT A MEDICINE. IF IT IS NOT A MEDICINE THEN HOW IT WILL CURE THE DIABETES?

Noni is not a medicine because the medicine contains one ingredient that only meant for correcting or improving to a particular condition of a disease. Suppose we are taking pain killer that only reduce the pain by blocking pain path, suppose we are taking any anti hypertensive drug it will lower the BP by a particular way. Similarly when we are taking any diabetic drug it helps to release the sugar level from the blood by its therapeutic property. When we are taking insulin from outside it substitute the insulin of our body and helps in releasing sugar from the blood. But the medicine is here not giving any effect to alter the cause of any disease. Medicine has some particular therapeutic action on a particular symptom or condition of disease. But Noni is a food supplements. It does not meant for any particular disease or particular condition of any diseases. It helps to cure the diseases by activating our body immune power or by rectifying the base line cause of any disease. It contains all the vitamins and minerals along with 150+ micronutrients that our body needs to perform various physiological activity or synthesis of many vital things for our body. All the micronutrients and vitamins minerals make Noni a powerful antioxidant that help to prevent the free radicals damage to our cells and those free radicals are actually the

seed of many chronic degenerative diseases like diabetes, cancer, rheumatoid arthritis and so on. So Noni is just a complete food supplement for our body and that provide the needful micronutrients those we don't get in our daily diet to make our body healthy and diseases free.

14. WHAT IS LOW GLYCEMIC INDEX?

A 3:1 ratio of carbohydrates to fiber in Noni juice helps balance blood glucose level. Glycemic index refers to a method of classification by which a number is assigned to foods based on how they affect blood sugar levels. Foods that contain the same amount of total carbohydrate may have a different glycemic index. For example kidney beans increase blood sugar levels more significantly than Soya beans, because of its higher glycemic value. Noni has a very low glycemic index and hence it reduces the risk of chronic conditions of diabetics

15. DOES NONI WILL ALSO HELP IN DIABETIC COMPLICATIONS?

Yes Noni helps in diabetic complications. Noni may help the diabetic complications like care of diabetic gangrene by its powerful healing effects and also helps diabetic poly neuropathy symptoms by providing number essential micronutrients, vitamins, essential minerals and amino acids that it contains. Noni may also help relieve diabetic complications through its ability to stimulate the body's production of nitric oxide. Nitric oxide and Scopoletin one ingredient in Noni helps also reduce the diabetic hypertension. Both may also be important factors in decreasing symptoms such as poor circulation and vision problems.

16. IF IT IS JUST A FRUIT JUICE THEN WHY NONI IS A SUPERIOR THAN OTHER FRUITS?

All fruits do not contain all the ingredients like Noni contains. It contains all vitamins, essential minerals and 150+ micronutrients that does not found in any fruits. So Noni is superior to other fruits.

FAQ – Heart Diseases and Noni

1. WHAT ARE THE PREDISPOSING FACTORS OF HEART PROBLEMS ?

Heart diseases are the number-one cause of death not only in India but also in whole world. Our fastidious life style, rich diet habits, physical inactivity, stress full mental condition are the predisposing factors of various cardiac problems and heart attacks. The high rise of cholesterol in our blood is one of the causes of many cardiac problems and the heart attacks. The oily fatty food, ghee, fried foods has become a habit in our daily routine diet. It all causes the rise of cholesterol in our blood and plays the main role in generating various heart diseases like coronary artery diseases, ischemic heart diseases, atherosclerotic plaques in artery, unstable angina pain etc.

2. WHAT IS A HEART ATTACK ?

A heart attack (also known as a myocardial infarction) is the death of heart muscle from the sudden blockage of a coronary artery by a blood clot. Coronary arteries are blood vessels that supply the heart muscle with blood and oxygen. Blockage of a coronary artery deprives the heart muscle of blood and oxygen, causing injury to the heart muscle. Injury to the heart muscle causes chest pain and pressure. If blood flow is not restored within 20 to 40 minutes, irreversible death of the heart muscle will begin to occur. Muscle continues to die for 6-8 hours at which time the heart attack usually is “complete.”

3. WHAT CAUSES A HEART ATTACK ?

Coronary atherosclerosis is the prime cause of heart attack Atherosclerosis is a gradual process in which plaques (collections) of cholesterol are deposited in the walls of arteries. Cholesterol plaques cause hardening of the arterial walls and narrowing of the inner channel (lumen) of the artery. Arteries that are narrowed by atherosclerosis cannot deliver enough blood to maintain normal function of the parts of the body they supply. Coronary atherosclerosis (or coronary artery disease) refers to the atherosclerosis

that causes hardening and narrowing of the coronary arteries. Diseases caused by the reduced blood supply to the heart muscle from coronary atherosclerosis are called coronary heart diseases (CHD). Coronary heart diseases include heart attacks, sudden unexpected death, chest pain (angina), abnormal heart rhythms, and heart failure due to weakening of the heart muscle. Occasionally the surface of a cholesterol plaque in a coronary artery may rupture, and a blood clot forms on the surface of the plaque. The clot blocks the flow of blood through the artery and results in a heart attack

4. WHAT IS HYPERTENSION OR HIGH BLOOD PRESSURE ?

Blood pressure measures the force that the blood applies to the walls of the arteries as it flows through them. It's normal for blood pressure to increase when you exert yourself, or when you feel stressed or anxious. But if the blood pressure is consistently higher than normal at rest, this is high blood pressure, also known as hypertension. The normal blood pressure value is 120/80 mm of Hg. The top figure - the systolic blood pressure - is a measure of the pressure when your heart muscle is contracted and pumping blood. The bottom figure - the diastolic blood pressure - is the pressure when the heart is relaxed and filling with blood. High blood pressure is defined as a systolic blood pressure of 140 or over and/or a diastolic blood pressure of 90 or over.

4. WHAT ARE COMMON CAUSES OF HIGH BLOOD PRESSURE?

Excessive muscle tone in the arteries- Too much sympathetic nervous system tone constricts the arteries. Excessive adrenal gland activity causes constriction of the arteries. Deficiencies of calcium, magnesium or copper can have the same effect. Lead or arsenic toxicity are one cause of calcium deficiency. These replace calcium but do not have the same relaxing effect on the nerves as calcium.

Emotional or other stress will cause excess adrenal activity and high blood pressure by this mechanism. With this type of hypertension, often both numbers are elevated and the blood pressure is labile or fluctuating.

Loss of elasticity of the arteries.- Zinc deficiency causes the arteries to become hard, brittle and often inflamed instead of soft and flexible. This loss of flexibility will raise the blood pressure, in particular the systolic pressure.

Cadmium replaces zinc and contributes to the brittleness and hardness of the arteries. Lead and arsenic may also replace zinc, contributing to this cause for hypertension. Often there is a large spread between the blood pressure numbers in these cases.

Calcium or fatty plaques in the arteries- Once the arteries become inflamed and brittle, the body may coat them with calcium and fatty plaques to prevent rupture of the arteries. The plaque unfortunately reduces the interior diameter of the arteries which in turn raises blood pressure. More pressure is required to force the blood through the smaller diameter arteries.

Deficiencies of copper, zinc, bioflavonoid, vitamins C and E and other nutrients contribute to this problem. Excessive cadmium, lead, arsenic or aluminum may also play a role. Plaques in the arteries can cause both blood pressure numbers to elevate.

Kidney dysfunction. Toxic substances can build up within the kidneys and damage their ability to regulate water balance in the body. This can lead to water retention, salt retention and high blood pressure. Excessive mercury, nickel, lead, arsenic, aluminum or cadmium can cause kidney congestion and kidney damage. Standard blood tests for kidney function are often normal.

Other substances that damage the kidneys are prescription medications such as anti-inflammatory drugs and other chemical toxins. Usually this cause of hypertension results in elevation of both systolic and diastolic blood pressure.

Abnormal sodium or water retention - other than kidney disease. Excessive rennin or aldosterone raises the sodium level which can cause water retention. Circulating toxins in the blood can also increase water retention.

Magnesium deficiency can contribute to water retention. These may cause a volatile blood pressure.

Stress. Acute or chronic stress from any source can induce a fight or-flight response that can result in elevated blood pressure.

Very often one has several factors contributing to high blood pressure.

5.WHAT IS THE ROLE OF NONI IN PREVENTING HIGH BLOOD PRESSURE ?

Noni contain all the trace minerals like Ca, Mg, K, P, Molybdenum , all essential amino acids that prevents the excessive muscles tone in arteries and prevents the high rise of blood pressure. The wall of blood vessels get hard, brittle and inflamed instead of soft and flexible due to the deficiency of essential minerals and micronutrients. That causes the rise of blood pressure. Noni provides all the essential minerals and micronutrients that help in maintaining the elasticity of the blood vessels healthy and thus keep the blood pressure normal. Deficiency of essential minerals, bioflavonoid, and vitamins makes the vessels wall inflamed and brittle so that to protect from the damage body may coat them calcium and fatty plaques to prevent rupture of the arteries. Noni contains all the vitamins, minerals, flavonoids, and lot of phyto chemicals that helps to prevent the blood vessels from becoming hard and brittle and keeps the elasticity of the vessels intact. So helps to maintain the blood pressure normal.

The free radicals are continuously creating in our body. They are the charged molecule that damage the protein, lipids, cell membrane even DNA of cells and the major cause of various chronic degenerative diseases. The hypertension is also one among them

Noni contain the phytochemicals scopoletin, flavonoids those helps in dilating the blood vessels and thus act as vasodilator. This vasodilator property of Noni helps in reducing the blood pressure.

6. WHAT IS THE ROLE OF NITRIC OXIDE IN HYPERTENSION AND HOW NONI HELP?

As we are well aware, hypertension has multifactor etiology. It is clear that diet, exercise, and genetics play a role in the human body's circulatory function.

Many people are controlling their diet and exercising regularly, yet they still suffer from high blood pressure. Modern science is still looking for more answers to why high blood pressure occurs. One such theory centers on a chemical called nitric oxide.

The nitric oxide is believed to be one controller of blood pressure within the body as it is also having vasodialating property.

It is believed that Noni stimulate the body's production of nitric oxide, a chemical which allows the blood vessels to dilate more easily and be more elastic. In other words it acts as a vaso dilator to reduce the high blood pressure in hypertensive patient. Recent studies have shown how specific extracts from *Morinda citrifolia* (NONI) produce a significant nitric oxide effect in endothelial cells in vitro.

7. WHAT IS THE ROLE OF SCOPOLETIN PRESENT IN NONI TO REDUCING HYPERTENSION?

One key component found in Noni that has been connected to lowering blood pressure, that is Scopoletin. Scopoletin, which has been scientifically proven to dilate blood vessels and act as a vaso dilator also helps in lowering the blood pressure.

In 1993, researchers from the University of Hawaii extracted natural Scopoletin from the Noni plant. Dr. Isabelle Abbott, a recognized expert in botanical sciences, believes Scopoletin is almost certainly involved in the body's response to Noni's effect on lowering high blood pressure.

8. WHAT IS THE ROLE OF XERONINE IN NONI FOR REDUCING HIGH BLOOD PRESSURE AND CARDIOVASCULAR DISEASES?

Xeronine is a small alkaloid that is required in micro gram (trillionth of gram) amounts and he correct functioning of body. Large amount are used in times of physical or mental stress. In over mental stress condition the blood pressure raises hence the role of xeronine helps in lowering the blood pressure to maintain the normal function of all cells, enzymes, and keeps all the endocrine system acts in a harmonious way.

The xeronine system promotes a healthy cell structure within the circulatory system thus maintain the blood pressure within the normal range.

9. WHAT IS THE ROLE SEROTONIN IN NONI IN CARDIOVASCULAR DISEASES?

Serotonin is a neurotransmitter, a specialized molecule that allows nerve cells to communicate and interact with each other. Without neurotransmitters we would be unable to think, perceive, move, or even live. Serotonin also does double duty in the cardiovascular and gastrointestinal systems. It helps regulate the expansion and contraction of blood vessels and the function of platelets, the blood cells that cause blood to coagulate and close a wound. It is synthesized in different parts of the brain and body, where it can be stored or released. The most important raw ingredient is an amino acid called tryptophan. Noni is a good source for tryptophan. When we take Noni the amino acid tryptophan enters our blood stream and are carried to tissues that will use them to synthesize the body's own proteins and other essential molecules, including serotonin.

Serotonin also has complex roles in regulating blood flow to the brain, heart, and gastrointestinal tract. It regulates blood vessel elasticity and can act as either a vasodilator (causing vessels to expand) or a vasoconstrictor (causing vessels to narrow), depending on where and when it is released. Because of its complex action in controlling blood flow and blood pressure, serotonin abnormalities are also thought to have a role in a number of other cardiovascular conditions, including some forms of hypertension (high

blood pressure). These include peripheral vascular diseases, which are circulatory problems involving the blood vessels in the extremities, the hands and feet, and sometimes the lower legs as well. One such disease is Raynaud's disease.

Noni helps in keeping and maintaining the serotonin level in blood and thus helps in improving some form vascular disease.

10. WHAT IS CHOLESTEROL

Cholesterol is a soft, waxy substance found among the lipids (fats) in the bloodstream and in all your body's cells. It's an important part of a healthy body because it's used to form cell membranes, some hormones and is needed for other functions. But a high level of cholesterol in the blood — hypercholesterolemia — is a major risk factor for coronary heart disease, which leads to heart attack.

Cholesterol and other fats can't dissolve in the blood. They have to be transported to and from the cells by special carriers called lipoproteins. There are several kinds, but the ones to focus on are low-density lipoprotein (LDL) and high-density lipoprotein (HDL).

11. WHAT IS LDL CHOLESTEROL AND HDL CHOLESTEROL ?

Low-density lipoprotein is the major cholesterol carrier in the blood. If too much LDL cholesterol circulates in the blood, it can slowly build up in the walls of the arteries feeding the heart and brain. Together with other substances it can form plaque, a thick, hard deposit that can clog those arteries. This condition is known as atherosclerosis. A clot (thrombus) that forms near this plaque can block the blood flow to part of the heart muscle and cause a heart attack. If a clot blocks the blood flow to part of the brain, a stroke results. A high level of LDL cholesterol (160 mg/dL and above) reflects an increased risk of heart disease. If you have heart disease, your LDL cholesterol should be less than 100 mg/dL. That's why LDL cholesterol is called "bad" cholesterol. Lower levels of LDL cholesterol reflect a lower risk of heart disease.

About one-third to one-fourth of blood cholesterol is carried by HDL. Medical experts think HDL tends to carry cholesterol away from the arteries and back to the liver, where it's passed from the body. Some experts believe HDL removes excess cholesterol from plaques and thus slows their growth. HDL cholesterol is known as "good" cholesterol because a high HDL level seems to protect against heart attack. The opposite is also true: a low HDL level (less than 40 mg/dL in men; less than 50 mg/dL in women) indicates a greater risk. A low HDL cholesterol level also may raise stroke risk.

12. WHAT IS THE CARDIO PROTECTIVE ROLE OF NONI ON THE LDL CHOLESTEROL?

LDL cholesterol is named as bad cholesterol and this is the one which is the route cause of coronary artery diseases, angina pain, and atherosclerosis of artery etc. But LDL cholesterol is not really bad in its native form because God did not make a mistake when he created it. Native LDL cholesterol is good. In fact it is essential for building good cell membrane, others cell parts, and many different hormones that our body needs. Problems begin when native LDL cholesterols are oxidized by the free radicals in our body and make them the harmful cholesterol. The high environmental pollutions, our stressful life style, a good nutrients depleted diet are the main causes of over production of free radicals in our body. Those free radicals play the main role to oxidize LDL cholesterol and make it harmful to our body. So to neutralize the notorious activity of those free radicals to convert the native LDL cholesterol to harmful LDL cholesterol it is required some powerful antioxidants. Those antioxidants not only neutralize the effect of free radicals on the vessels cells but also to other cells. NONI have the powerful antioxidant properties that help to neutralize the free radicals role of oxidation of the native LDL cholesterol to harmful LDL cholesterol and thus protects the arterial endothelial lining from injury and future developing atheromatous plaque. The main antioxidants are vitamins A, E and C, beta-carotene, glutathione, bioflavonoid, selenium, zinc, CoQ10 (ubiquinone), and various phyto-chemicals. NONI is rich with Vita A, Beta carotene, Vita E, C, glutathione, bioflavonoid, selenium, zinc, and many

more essential phytochemicals. Melatonin, a hormone produced by the pineal gland, is also a potent antioxidant. NONI helps to stimulate more melatonin release from the pineal gland. Thus the high antioxidant property of Noni helps in prevention of oxidation of LDL cholesterol.

Phytosterol present in Noni reduces the LDL Cholesterol level in blood. Phytosterol prevents the absorption of LDL Cholesterol to the blood.

13. WHAT IS THE ROLE OF PHYTOSTEROL IN NONI IN CARDIOVASCULAR DISEASES?

The plant sterols, called Phytosterol alleviate problems associated with high levels of “bad” cholesterol (LDL) in our bodies, and can cause cardiovascular diseases. Noni contain the phytosterol that slows down the intestinal absorption of cholesterol and lowers total plasma and LDL cholesterol levels. Noni juice is an important source of (beta) sitosterol, stigmasterol, and campesterol - the three most nutritionally important phytosterols. So Noni helps in reducing serum cholesterol level prevents the further cardiac problems.

Thus Noni the natural food supplements helps in various ways in preventing and protecting different cardiovascular diseases

14. WHAT IS THE DOSES OF NONI IN ANY HEART DISEASES?

Recommended Doses :

5ml morning and 5ml evening for 3 days Then

10ml morning and 10ml evening for next 3 days Then

15ml morning and 15ml evening for next 15 days Then

20ml morning and 20ml evening for next 8 months.

FAQ – Aids and Noni

1. WHAT IS AIDS?

When our immune system is missing one or more of its components, the result is an immunodeficiency disorder. AIDS (Acquired Immune Deficiency Syndrome) is an immunodeficiency disorder. AIDS is a serious condition that weakens the body's immune system, leaving it unable to fight off illness. AIDS is the last stage in a progression of diseases resulting from a viral infection known as the Human Immunodeficiency Virus (HIV or AIDS virus). The diseases include a number of unusual and severe infections, cancers and debilitating illnesses, resulting in severe weight loss or wasting away, and diseases affecting the brain and central nervous system.

2. WHAT IS THE ROLE OF CD4 IN AIDS?

The immune system is a network of cells, organs and proteins that work together to defend and protect the body from potentially harmful, infectious microorganisms, such as bacteria, viruses, parasites and fungi. When the immune system is missing one or more of its components, the result is an immunodeficiency disorder. AIDS is an immunodeficiency disorder. Lymphocytes (white blood cells) are one of the main types of immune cells that make up the immune system. There are two types of lymphocytes: B cells and T cells. B cells secrete antibodies (protein) into the body's fluids to ambush and attack antigens (foreign protein). T cells attack and destroy infected or malignant cells in the body. There are two types of T cells: helper T cells (CD4) and killer T cells (CD8). Helper T cells recognize the antigen and activate the killer T cells. Killer T cells then destroy the antigen. When HIV is introduced into the body, this virus is too strong for the helper T cells and killer T cells. The HIV virus inactivate the CD4 cells.

3. WHY THE OTHERS INFECTION GET INSIDE THE BODY EASILY EVEN CANCER ALSO TO AN AIDS PATIENT THAN A NORMAL PERSON?

(AIDS) is a serious condition that weakens the body's immune system, leaving it unable to fight off illness. It results from a viral infection known as the Human Immunodeficiency Virus (HIV virus). When HIV is introduced into the body, this virus is too strong for the helper T cells and killer T cells, the immune factors of the body. The virus then invades the cells and starts to reproduce itself, thereby free to infect otherwise healthy cells. The HIV virus cannot be destroyed and lives in the body undetected for months or years before any sign of illness appears. With the T cells inactivated, other viruses, parasites or cancer cells (called "opportunistic diseases") which would not have been able to get past a healthy body's defense, can multiply within the body without fear of destruction.

4. WHAT ARE THE SYMPTOMS OF AIDS AND HIV INFECTION?

Some people infected with HIV are asymptomatic (no symptoms) while others may develop symptoms of HIV from two to 15 years after initial infection. The symptoms are as follows:

- ✍ extreme fatigue (severe weakness)
- ✍ rapid weight loss from an unknown cause (more than 10 kgs. in two months for no reason)
- ✍ appearance of swollen or tender glands in the neck, armpits or groin, for no apparent reason, lasting for more than four weeks
- ✍ unexplained shortness of breath, frequently accompanied by a dry cough, not due to allergies or smoking
- ✍ persistent diarrhea
- ✍ intermittent high fever or soaking night sweats of unknown origin
- ✍ a marked change in an illness pattern, either in frequency, severity, or length of sickness

✍ appearance of one or more purple spots on the surface of the skin, inside the mouth, anus or nasal passages

✍ whitish coating on the tongue, throat or vagina

✍ forgetfulness, confusion and other signs of mental deterioration

5. WHAT ARE OTHERS AIDS-DEFINING CONDITIONS?

Candidiasis, Cervical cancer (invasive), Coccidioidomycosis, Cryptococcosis, Cryptosporidiosis Cytomegalovirus disease, Encephalopathy (HIV-related), Herpes simplex, Histoplasmosis, psoriasis, Kaposi's sarcoma, Lymphoma (certain types), Mycobacterium avium complex Pneumocystis carnie pneumonia, Pneumonia (recurrent), Progressive multifocal leukoencephalopathy, Salmonella septicemia (recurrent), Toxoplasmosis of the brain, Tuberculosis, Wasting syndrome

6. WHY SOME HIV INFECTED PERSONS DEVELOP SYMPTOMS 2 TO 15 YR AFTER INITIAL INFECTION?

AIDS is a syndrome defined by the presence of one or more of 30 independent diseases-when accompanied by a positive result on a test that detects antibodies to HIV. The same disease conditions are not defined as AIDS when the antibody test is negative. If HIV does destroy the immune system, it does so years after the immune system has virtually destroyed it. By then the virus typically infects very few of the immune system's T-cells. So there are certainly some other additional causative cofactors that derange the immunological system of our body with the presence of HIV. Those are the **immunological stressor or oxidizing agents**. Five types of immunological stressor agents can alter the functioning of the immune system: chemical, physical, biological, mental, and nutritional. Our soil, water, air, and food are polluted with numerous chemical, physical, biological, and nutritional stressors. We are all exposed to stressor agents either involuntarily through the conditions under which we are obligated to live or voluntarily through life styles that we have chosen. These stressors can produce toxicity (immunotoxic effect) and can activate the regular molecular and cell

networks (immunogenic effect) when acting on immunocompetent cells. Both immunotoxic and excessive immunogenic effects (over stimulation of immune responses) induce degeneration of cells and the functioning of the immune system. So when the stressor or oxidizing agents derange the immunological system of a HIV infected person then that time the AIDS appear

6. HOW NONI HELPS IN CASE OF AIDS?

At the molecular level, AIDS is caused by the accumulation of free radicals, especially oxidizing agents, in all systems, organs, and tissues, but principally within the cells and chemical reactions of the immune system. As a consequence, the clinical manifestations of AIDS- opportunistic infections, tumors, and metabolic disturbances and conditions - as well as the severity of the illness are directly proportional to the levels of free radicals, especially oxidizing agents in the tissues of the AIDS patient. So to neutralize those oxidizing agents, the harmful activity of free radicals it is required to protect our body by providing a powerful antioxidant. INDIAN NONI Juice Found To Be High In Antioxidants. NONI have the powerful antioxidant properties that help to neutralize the effects of free radicals, allowing the body to restore itself to proper balance leading to health and well-being. The main antioxidants are vitamins A, E and C, bet-carotene, glutathione, bioflavonoid, selenium, zinc, CoQ10 (ubiquinone), and various phyto-chemicals. NONI is rich with Vita A, Beta carotene, Vita E, C, glutathione, bioflavonoid, selenium, zinc, and many more essential phytochemical. Melatonin, a hormone produced by the pineal gland, is also a potent antioxidant. NONI helps to stimulate more melatonin release from the pineal gland.

7. WHY NONI WORKS AS POWERFUL ANTIOXIDANTS?

There are two factors of antioxidant property of Noni.

Endogenous antioxidants and role of Noni - Our body has evolved with endogenous defense mechanisms to protect against free radical induced cell damage. Glutathione peroxidase, catalase, and Superoxide dismutases

are three primary antioxidant enzymes in our body, which involved in direct elimination of free radicals or reactive oxygen species from our body. They require micronutrient such as selenium, iron, copper, zinc, and manganese as cofactors for their formation and optimum catalytic and effective antioxidant activity. Noni contain all the trace minerals that help for optimum catalytic activity of those three important antioxidant enzymes for an effective antioxidant defense mechanism.

Glutathione, ascorbic acid, alpha-tocopherol, beta-carotene, bilirubin, selenium, dihydrolipoic acid, reduced CoQ10, melatonin, uric acid etc., as a whole play a homoeostatic or protective role against ROS produced during normal cellular metabolism and after active oxidation insult. Noni contains all the above phyto chemicals and vitamins in abundant quantity. Glutathione (GSH) is the most significant component which directly quenches Reactive Oxygen Species (ROS) such as lipid peroxides and plays major role in xenobiotic metabolism. Glutathione is a tripeptide made up of the amino acids gamma-glutamic acid, cysteine, and glycine. Noni contain all those glutathione making amino acids in abundant number. Thus Noni increases the body's glutathione level. Noni stimulates more melatonin secretion from the pineal body. It also maintains ascorbate (vitamin C) and alpha-tocopherol (vitamin E), in their reduced form, which also exert an antioxidant effect by quenching free radicals.

Exogenous antioxidants: Contribution from Noni

A number of other dietary antioxidants known as phytonutrients or phytochemicals that are being increasingly appreciated for their antioxidant activity. One example is flavonoids which are a group of polyphenolic compounds. They are responsible for the different brilliant colors such as blue, scarlet, and orange. Noni contain 150 above phytochemicals including all flavonoids. Flavonoids exhibit several biological effects such as antitumoural, anti-ischaemic, anti-allergic, anti-hepatotoxic, anti-ulcerative, and anti inflammatory activities. These are also known to inhibit the activities of several bad enzymes like lipoxygenase, cyclooxygenase, monoxygenase,

xanthine oxidase, glutathione-S transferase, mitochondrial succino-oxidase, and protein kinases. Many of the biological activities of flavonoids are attributed to their antioxidant properties and free radical scavenging capabilities. Noni is rich with many flavonoids.

8. DOES NONI ENHANCE THE IMMUNE SYSTEM OF HIV INFECTED PATIENT? IF YES IS THERE ANY PATHOLOGICAL EVIDENCE?

Noni is a powerful immune enhancer and immune modulator. It is the super natural nutritional supplements that keep the immune system active. It contains all vitamins A, C, E, B1, B2, B6, B12, Niacin, Biotin, Pantothenic Acid (B5), Folic Acid; all trace minerals -Calcium, Iron, Phosphorus, Magnesium, Zinc, Copper, Chromium, Manganese, Molybdenum, and Sodium Potassium. - Fructose, Glucose, Hexose, Rhamnose, Pentose. Noni contain 18 amino acids out of total 20 amino acids including all essential amino acids. Many important fatty acids found in Noni are important to the overall complex metabolic processes of the body. Acetic acid is the main acid that all fatty acids are made from. Caprylic acid another fatty acid inhibits yeast and fungal overgrowth in the body. Linoleic acid which cannot be manufactured in the body, serves these important functions.

Yes for pathological evidence it has been shown that the AIDS patients who are taking Noni CD4 level has been raised. So it is strong evidence that NONI works in the immune logical level of an AIDS patient.

FAQ – Neurological Disease and Noni

1. WHAT IS AMYOTROPHIC LATERAL SCLEROSIS (ALS) ?

Ans: Amyotrophic lateral sclerosis (ALS) is a rapidly progressive, invariably fatal neurological disease that attacks the nerve cells (*neurons*) responsible for controlling voluntary muscles. In ALS, both the upper motor neurons and the lower motor neurons degenerate or die, ceasing to send messages to muscles.

(Upper motor neurons = it is the group of nerve cells present in your brain and spinal cord that send instructions in the form of electrical impulses to the muscles of your upper arms and shoulder to work properly. Lower motor neurons = it is another group of nerve cells present in your brain and spinal cord that send instructions in the form of electrical impulses to the muscles of your lower leg to move properly)

Due to ceasing of function of both upper and lower motor neurons, the muscles gradually weaken, waste away, and twitch. Eventually the ability of the brain to start and control voluntary movement is lost. Individuals with ALS lose their strength and the ability to move their arms, legs, and body. When muscles in the diaphragm and chest wall fail, individuals lose the ability to breathe without ventilatory support. The disease does not affect a person's ability to see, smell, taste, hear, or recognize touch, and it does not usually impair a person's thinking or other cognitive abilities. However, several recent studies suggest that a small percentage of patients may experience problems with memory or decision-making, and there is growing evidence that some may even develop a form of dementia.

2. HOW NONI HELPS IN ALS ?

Ans: To identify the underlying cause of ALS, a number of scientific studies have examined various theories. A growing body of evidence suggests that

multiple, complicated factors may work together to cause and advance ALS. Studies have also shown that many of these factors are linked to underlying nutritional deficiencies that can be addressed through diet and nutrient supplementation. Indian Noni is a natural food supplement that contains all the major nutrients and many more micronutrients which are very much essential for every person for normal metabolic and biophysiological activity of the body. Since many of the etiological factors of ALS are linked with underlying nutritional deficiencies so Indian Noni helps a lot improving the conditions of ALS patient.

It has been suggested that amyotrophic lateral sclerosis (ALS), a neurodegenerative disorder resulting in motor neuron death, is associated with oxidative damage induced by free radicals. Indian Noni is a powerful antioxidant that neutralizes the oxidative damage of free radicals in Motor neuron. Indian Noni contains all the antioxidant vitamins, all trace minerals, and lots of phytochemicals. All those ingredients by their synergistic action make Indian Noni a powerful and effective antioxidant.

Free radical nerve damage in ALS caused by –

Deficiency of body's antioxidant enzyme – The deficiency or weak antioxidant enzyme system of our body is one of the major causes of oxidative damage responsible for ALS. Our body has evolved with endogenous defense mechanisms to protect against free radical induced cell damage. Glutathione peroxidase, catalase, and Superoxide dismutases are three primary antioxidant enzymes in our body, which involved in direct elimination of free radicals or reactive oxygen species from our body. They require micronutrient such as selenium, iron, copper, zinc, and manganese as cofactors for their formation and optimum catalytic and effective antioxidant activity. Indian Noni strengthens the antioxidant enzyme system of your body and protects your body from the damaging effect of free radicals. Indian Noni contain all the trace minerals like zinc, selenium, manganese etc that help for optimum catalytic activity of those three important antioxidant enzymes for an effective antioxidant defense mechanism. Hence

in ALS the free radicals negative effects on neurons can be rectified by using Indian Noni as it strengthen your own body's antioxidant enzyme system most effectively as well as it also neutralizes the bad effect of free radicals by its high antioxidant property.

Glutamate excitotoxicity - Glutamate is important to proper brain function because of its role in communication between neurons. Under normal conditions, its concentrations are tightly regulated during its release into the extracellular space and its reuptake into cells. In many events excess amounts of glutamate are released into the space between cells. This excess glutamate can excite the nerve cells beyond their capacity and result in nerve cell death. In ALS, there is evidence that the glutamate reuptake system may not work correctly resulting in an accumulation of glutamate in the space between cells. The excess glutamate allows more calcium to enter the cell. The interiors of motor-neuron cells are highly sensitive to excess calcium, which increases cell activity beyond normal levels (excitotoxicity) and contributes to cellular injury through the production of free radicals. Indian Noni helps in this regard by modulating the glutamate reuptake system into the cells and thus prevents the motor neuron cells from destroying. Xeronine, the alkaloid of Noni helps to modulate any protein molecules of its improper configuration to normal molecular configuration to carry its normal activity. Glutamate is also made up of protein hence it modulates the glutamate molecular property and thus enhances the intra cellular reuptake of glutamate in ALS.

Mitochondrial abnormalities - The mitochondria are the powerhouses, or energy factories, of cells. They are responsible for many aspects of proper cellular function, including the production of ATP, the scavenging of radical oxygen species, and the maintenance of intracellular calcium concentrations. In ALS patients, changes in mitochondria have been identified. Mitochondrial abnormalities can directly lead to free radical production or increased calcium levels between cells. Additionally, because proper mitochondrial function is so essential, other processes, as yet unidentified, could be altered when mitochondrial health is impaired. Supplements that support healthy

mitochondrial function may help stabilize mitochondrial health. Indian Noni helps a lot for healthy mitochondrial function. Xeronine, the alkaloid Indian Noni interact with the protein and make it fold into its proper conformation. The result is a properly functioning protein. Whenever a problem arises in the cell due to a protein structural problem, either in mitochondria or golgi apparatus xeronine's presence would be beneficial. Hence the mitochondrial abnormalities found in ALS can be modulated by Indian Noni by its xeronine system.

Therefore a long term use of Indian Noni in amyotrophic lateral sclerosis has been found very effective both for curative and preventive purposes.

3. WHAT IS BELL'S PALSY ?

Bell's palsy is a weakness or paralysis of the muscles that control expression on one side of your face. The disorder results from damage to one of a pair of facial nerves that runs beneath each ear to the muscles in your face. The problem can occur at any age. Bell's palsy occurs more often in pregnant women, in people with diabetes or upper respiratory ailments, such as the flu or a cold, and in people with conditions that compromise their immune systems. Also called facial palsy, Bell's palsy is named for Dr. Charles Bell, a 19th-century surgeon from Scotland who first described the condition.

4. WHAT ARE THE SIGN AND SYMPTOMS OF BELL'S PALSY

Ans. : Signs and symptoms of Bell's palsy may include:

- ☞ Sudden onset of paralysis or weakness on one side of your face, making it difficult to smile or close your eye on the affected side
- ☞ Facial droop and difficulty with facial expressions
- ☞ Facial stiffness or a feeling that your face is being pulled to one side
- ☞ Pain behind or in front of your ear on the affected side
- ☞ Sounds that seem louder on the affected side
- ☞ Pain, usually in the ear on the affected side
- ☞ Headache

- ☞ Loss of taste on the front portion of your tongue
- ☞ Changes in the amount of tears and saliva your body produces

5. HOW NONI HELPS IN BELL'S PALSY

Ans.: Noni contain all essential minerals in abundant quantity such as calcium, magnesium, potassium, manganese etc.

Calcium

Calcium performs numerous vital functions in the body. It combines with phosphorus to strengthen bones and is crucial for nerve conduction, muscle contraction and heartbeat.

Magnesium

Magnesium is essential for every major biological process. It is necessary for 300+ enzymatic reactions and is vital for calcium metabolism. Magnesium is not a trace mineral, but a major entity in our bodies

Potassium

Potassium is necessary for the transmission of nerve impulses that provide smooth coordinated muscle movement. Potassium also helps widen the blood vessels during exercise; thereby increasing blood flow to help carry away heat, and it is used to convert blood glucose to glycogen. Noni is rich with potassium

Vitamin B12

Vitamin B12 prevents nerve damage by maintaining the sheaths that cover them. foods contain abundant amounts of B vitamins, in particular the vitamin B12 and the vitamin B3 (niacin), required for a well functioning nervous system. B12 deficiency can cause nerve degeneration.

Nerve tissue function is partly dependent on the presence of the various B vitamins in Vitamin B Complex 50 such as Thiamin, Niacin and Pyridoxine, this may be a useful adjunct in the treatment of Bell's Palsy.

Noni is rich with all vitamins including Vitamin B complex.

Essential fatty acids

The essential fatty acids are important in the maintenance of a healthy nervous system. The role of the essential fatty acids within the body is an important link that can be utilized during the supplemental period. These essential fatty acids are present naturally in Noni. This fatty acid helps the body combat inflammation and supports the normal functioning of the nervous system.

Noni contain all essential fatty acids

Immune modulating property of Noni

Bell's palsy is caused by a problem in the facial nerves that coordinate muscles; however, the actual mechanisms behind this problem remain a mystery and the sudden loss of muscle tone is still unexplained. The paralysis is thought to be a result of a swelling in the facial nerves because of an infection caused by a virus or because of some immune system problem. Noni acts like an immune modulator and thus helps in bells palsy cases by its immune modulating property.

6. WHAT IS MULTIPLE SCLEROSIS ?

Ans: Multiple sclerosis (MS) is a chronic, potentially debilitating disease that affects the central nervous system, which is made up of the brain and spinal cord. It is probably an autoimmune disease. In MS, certain cells in the immune system attack the nerves, causing a breakdown in the fatty sheath that surrounds and insulates a nerve cell. The breakdown occurs mostly in the brain and spinal cord. Once the fatty sheath starts to go, messages traveling to and from the brain are blocked. A message from the brain to "shake a leg," for instance, may simply dead-end while it's still in the brain, never reaching the muscles in the leg that could perform the task.

In multiple sclerosis, the body incorrectly directs antibodies and white blood cells against proteins in the myelin sheath, which surrounds nerves in your brain and spinal cord. This causes inflammation and injury to the sheath and ultimately to the nerves that it surrounds. The result may be multiple areas of scarring (sclerosis), hence called multiple sclerosis.

7. WHAT ARE THE SIGNS AND SYMPTOMS OF MULTIPLE SCLEROSIS?

Ans. :

- ✍ Numbness or weakness in one or more limbs, which typically occurs on one side of the body at a time or the bottom half of the body
- ✍ Partial or complete loss of vision, usually in one eye at a time, often with pain during eye movement
- ✍ Double vision or blurring of vision
- ✍ Tingling or pain in numb areas of the body
- ✍ Electric-shock sensations that occur with certain head movements
- ✍ Tremor, lack of coordination or unsteady gait
- ✍ Fatigue
- ✍ Dizziness
- ✍ In some cases, people with MS may also develop muscle stiffness or spasticity, slurred speech, paralysis, or problems with bladder, bowel or sexual function.
- ✍ Mental changes such as forgetfulness or difficulties with concentration also can occur.

8. HOW NONI HELPS IN MULTIPLE SCLEROSIS ?

Ans. : It is well known that brain and nervous system cells are prone to oxidative damage because of their relatively low content of antioxidants,

especially enzymatic ones, and of the high levels of both membrane polyunsaturated fatty acids (PUFA) and iron easily released from injured cells.

Accumulating data indicate that oxidative stress (OS) plays a major role in the pathogenesis of multiple sclerosis (MS). Reactive oxygen species (ROS), leading to oxidative stress, generated in excess primarily by macrophages, have been implicated as mediators of demyelination and axonal damage in both MS and experimental autoimmune encephalomyelitis (EAE), its animal model. ROS cause damage to cardinal cellular components such as lipids, proteins and nucleic acids (e. g., RNA, DNA), resulting in cell death by necrosis or apoptosis. In addition, weakened cellular antioxidant defense systems in the central nervous system (CNS) in MS, and its vulnerability to ROS effects may increase damage. The blood of patients with MS shows the signs of a significant oxidative stress. The possibility of counteracting it by antioxidant administration plus an appropriate diet might represent a promising way of inhibiting the progression of the disease. Indian Noni is an effective powerful antioxidant which contains all vitamins, trace minerals, amino acids, essential fatty acids and lots of phytonutrients.

Antioxidant Property of Noni

Endogenous antioxidants and role of Noni

Our body has evolved with endogenous defense mechanisms to protect against free radical induced cell damage. Glutathione peroxidase, catalase, and Superoxide dismutases are three primary antioxidant enzymes in our body, which involved in direct elimination of free radicals or reactive oxygen species from our body. They require micronutrient such as selenium, iron, copper, zinc, and manganese as cofactors for their formation and optimum catalytic and effective antioxidant activity. Noni contain all the trace minerals that help for optimum catalytic activity of those three important antioxidant enzymes for an effective antioxidant defense mechanism.

Glutathione, ascorbic acid, alpha-tocopherol, beta-carotene, bilirubin, selenium, dihydrolipoic acid, melatonin, uric acid etc., as a whole play a homeostatic or protective role against ROS. Noni contains all the above phyto chemicals and vitamins in abundant quantity. Glutathione (GSH) is the most significant component which directly quenches Reactive Oxygen Species (ROS) such as lipid peroxides and plays major role in xenobiotic metabolism. Glutathione is a tripeptide made up of the amino acids gamma-glutamic acid, cysteine, and glycine. Noni contain all those glutathione making amino acids in abundant number. Thus Noni increases the body's glutathione level. Noni stimulates more melatonin secretion from the pineal body. It also maintains ascorbate (vitamin C) and alpha-tocopherol (vitamin E), in their reduced form, which also exert an antioxidant effect by quenching free radicals.

Exogenous antioxidants: Contribution from Noni

A number of other dietary antioxidants known as phytonutrients or phytochemicals that are being increasingly appreciated for their antioxidant activity. One example is flavonoids which are a group of polyphenolic compounds. Noni contain 150 above phytochemicals including all flavonoids. Noni is rich with many flavonoids. Due to the inefficiency of our endogenous defense systems as well as highly exposure to adverse environmental factors such as, cigarette smoke, air pollutants, UV radiation, the ROS are produced in excess, and therefore increasing amounts of antioxidants present in Noni will be needed for diminishing the cumulative effect of oxidative damage over an individual's life span.

The various antioxidant and neuroprotective ingredient present in Indian Noni can be considered as pathogenic treatment in relapsing-remitting multiple sclerosis.

Role of various micronutrients of Indian Noni in Multiple Sclerosis

Threonine : Some studies tells that threonine at a daily dose of 7.5g reduced signs of spasticity without the side effects of sedation and increased motor weakness found in anti-spasticity drugs used for MS. Threonine is a precursor for glycine biosynthesis and may enhance glycinergic postsynaptic inhibition of the motor reflex. Indian Noni contains this amino acids threonine including other 16 amino acids. Hence regular use of Indian Noni must help to MS patients.

Vitamin E : Vitamin E has direct neuroprotective antioxidant effects as well as anti-inflammatory indirect effects. Vitamin E inhibits microglial activation by suppressing the LPS-induced p38 MAPK and Nfκappa B signaling effects necessary for microglial activation. Noni is rich with alfa-tocopherol or Vitamin E and with all vitamins in natural form.

Melatonin

Melatonin functions as an antioxidant and has the ability to protect neurons from lipopolysaccharide-induced oxidative stress. Noni stimulates more melatonin secretion from the pineal body and thus helps in MS.

Essential Fatty Acids

Dietary omega-3 fatty acids can be of great benefit to MS patients. Omega-3 fatty acids have been shown to alleviate pain in autoimmune disorders by inhibiting inflammatory mediators (eicosanoids and cytokines) in peripheral tissues as well as in glial cells. Noni contain all essential fatty acids.

Magnesium

Magnesium, zinc and calcium have been found to be deficient in central nervous system tissue in MS patients, especially in white matter tissue.

Magnesium is important for the metabolism of thiamine, calcium, potassium, phosphorus, iron, sodium, hydrogen chloride, acetylcholine, nitric oxide, and for many enzymes, and for the elimination of lead and cadmium. Calcium and magnesium are also important in the development, structure and stability of myelin. A magnesium deficiency is associated with increased inflammation. Noni contain lots of trace minerals like magnesium, calcium, potassium, zinc, phosphorus, sodium etc. Thus Noni provides all those important trace minerals which are found deficient in CNS tissue in MS.

Vitamin B₁₂

A severe vitamin B₁₂ deficiency can cause breakdown of the myelin sheath, similar to what occurs in MS. Noni contain all the vitamins in natural form including this vitamin B₁₂.

9. WHAT IS PARKINSON'S DISEASE ?

Ans: Parkinson's disease (PD) belongs to a group of conditions called motor system disorders, which are the result of the loss of dopamine-producing brain cells. The four primary symptoms of PD are tremor, or trembling in hands, arms, legs, jaw, and face; rigidity, or stiffness of the limbs and trunk; bradykinesia, or slowness of movement; and postural instability, or impaired balance and coordination. As these symptoms become more pronounced, patients may have difficulty walking, talking, or completing other simple tasks. PD usually affects people over the age of 50. Early symptoms of PD are subtle and occur gradually. In some people the disease progresses more quickly than in others. As the disease progresses, the shaking, or tremor, which affects the majority of PD patients may begin to interfere with daily activities. Other symptoms may include depression and other emotional changes; difficulty in swallowing, chewing, and speaking; urinary problems or constipation; skin problems; and sleep disruptions. There are currently no blood or laboratory tests that have been proven to help in diagnosing sporadic PD.

10. HOW NONI HELP IN PARKINSON DISEASE ?

Ans: The brain particularly is very susceptible to oxidative damage, because brain and nerve tissue contain relatively low level of antioxidants. In addition, those brain regions that are rich in catecholamines are exceptionally vulnerable to free radical generation. The catecholamine adrenaline, noradrenaline, and dopamine can spontaneously break down (auto-oxidise) to free radicals, or can be metabolized to radicals by the endogenous enzymes such as MAO (monoamine oxidases). One such region of the brain is the substantia nigra (SN), where a connection has been established between antioxidant depletion (including GSH) and tissue degeneration.

Antioxidant property of Noni in Parkinson's disease

Our body has evolved with endogenous defense mechanisms to protect against free radical induced cell damage. Glutathione peroxidase, catalase, and Superoxide dismutases are three primary antioxidant enzymes in our body, which involved in direct elimination of free radicals from our body. They require micronutrient such as selenium, iron, copper, zinc, and manganese as cofactors for their formation and optimum catalytic and effective antioxidant activity. Noni contain all the trace minerals that help for optimum catalytic activity of those three important antioxidant enzymes for an effective antioxidant defense mechanism.

Glutathione, ascorbic acid, alpha-tocopherol, beta-carotene, bilirubin, selenium, dihydrolipoic acid, melatonin etc., as a whole play a protective role against free radicals tissue damages. Ascorbic acid, alpha-tocopherol, beta-carotene is abundant in number in Noni. Glutathione (GSH) is the most significant component which directly quenches the free radicals and plays a major role in oxidant and antioxidant reaction. Glutathione is a tripeptide made up of the amino acids gamma-glutamic acid, cysteine, and glycine. Noni contain all those glutathione making amino acids in abundant number. Thus Noni increases the body's glutathione level. Noni stimulates more melatonin secretion from the pineal body.

Exogenous antioxidants: Contribution from Noni

A number of other dietary antioxidants known as phytonutrients or phytochemicals that are being increasingly appreciated for their antioxidant activity. One example flavonoids which are a group of polyphenolic compounds and having effective antioxidant property. Noni contain 150 above phytochemicals including all flavonoids. Flavonoids exhibit several biological effects such as antitumoural, anti-ischaemic, anti-allergic, anti-hepatotoxic, anti-ulcerative, and anti-inflammatory activities. Noni is rich with many flavonoids.

Due to the inefficiency of our endogenous defense systems as well as highly exposure to environmental factors such as, cigarette smoke, air pollutants, UV radiation, and also the existence of some physiopathological situations like inflammation, ischaemia/reperfusion, the free radicals are produced in excess, and therefore increasing amounts of antioxidants present in Noni will be needed for diminishing the cumulative effect of oxidative damage in parkinson's disease.

11. WHAT IS EPILEPSY ?

Ans: Epilepsy is a neurological condition that makes people susceptible to seizures. A seizure is a change in sensation, awareness, or behavior brought about by a brief electrical disturbance in the brain. Seizures vary from a momentary disruption of the senses, to short periods of unconsciousness or staring spells, to convulsions. Some people have just one type of seizure. Others have more than one type. Although they look different, all seizures are caused by the same thing: a sudden change in how the cells of the brain send electrical signals to each other.

12. HOW NONI HELP IN EPILEPSY ?

Ans: For most people with epilepsy, a well-balanced, nutritional diet — including adequate folic acid, calcium and magnesium, Vitamins B12, D, E and K— is recommended. Minerals are essential nutrients. Low levels of

the minerals sodium, calcium, and magnesium can alter the electrical activity of brain cells and cause seizures. It is true that if the body is depleted of these substances convulsions may occur. Indian Noni is well balanced nutritional supplement which contain all the vitamins, many trace minerals like calcium, magnesium, and lots of phytochemicals. Thus it helps in epileptic patients.

“Seizures associated with metabolic disorders usually begin soon after birth and rarely start after age six,” says Robert J. Gumnit, M.D., president of the Minnesota Comprehensive Epilepsy Program and director of the Epilepsy Clinical Research Center at the University of Minnesota. Micro nutrients can play a role in epilepsy. Adding more of micronutrient may help others. Shortages of magnesium, thiamin, vitamin B₆ and zinc have been reported to be associated with seizures in some individuals. These nutrients, among numerous others, are needed for normal chemical reactions in the brain. Indian Noni contains all the essential nutrients, many more phytonutrients and lot of essential trace minerals like calcium, magnesium, zinc, selenium which are needed for the normal chemical reactions in the brain of epileptic patients.

Vitamin E helps prevent seizures. One clinical studies show that people taking antiseizure drugs have reduced blood levels of vitamin E. The researchers at the University of Toronto decided to test vitamin E in 24 children with epilepsy whose seizures could not be controlled by medication. They found that the frequency of seizures was reduced by more than 60 percent in 10 of 12 children taking vitamin E supplements. Six of them had a 90 to 100 percent reduction in seizures. Indian Noni contains vitamin E and all the other vitamins. Thus a regular and constant use of Indian Noni may prevent the seizure attack of epilepsy patients.

Though Vitamin E apparently has no direct anti-epileptic action but it may act as a scavenger of free radicals in some forms of epilepsy, such as post-traumatic seizures, and so help protect the membranes of brain cells.”

Selenium may stop seizures. The mineral selenium, another nutrient with antioxidant properties, also appears to help control seizures in some children, says Georg Weber, M.D., Ph.D., assistant professor in the Department of Pathology at Harvard Medical School and a researcher at the Dana-Farber Cancer Institute in Boston. Dr. Weber has found that some children with severe, uncontrollable seizures and repeated infections have low blood levels of glutathione peroxidase, a selenium-dependent antioxidant enzyme. Indian Noni contains lots of trace minerals including selenium and thus helps in enhancing the production of glutathione peroxidase that helps naturally to fights against infections.

Role of antioxidant in epilepsy

Biological ill effects of oxidative injury from excess free radical production are implicated in many human conditions. Epilepsy is a chronic, dynamic neurological disorder associated with ongoing neuronal damage, particularly when uncontrolled. Oxidative injury may play a role in the initiation and progression of epilepsy, and therapies aimed at reducing oxidative stress may ameliorate tissue damage and favorably alter the clinical course. There is abundant in vivo evidence of oxidative injury in animal models of epilepsy and for efficacy of antioxidant therapy in reducing this injury in animal models of epileptogenesis.

Researchers in India have conducted a small human study to determine the oxidative stress status of patients suffering from epilepsy. A total of 29 epileptic patients and 50 normal control patients were recruited for the study. The antioxidant status and the level of lipid peroxidation were measured and recorded in both groups. Ten epileptic patients who had remained seizure free for one year were further evaluated. The results of this study showed that lipid peroxidation was increased in patients with epilepsy and levels of specific antioxidants, vitamins A, C and E, were lower than in the normal control group. This led to the conclusion that “the antioxidant status in blood of epileptic patients which was low compared to controls, improved after treatment, suggesting that free radicals may be

implicated in epilepsy. This study shows for the rationale use of antioxidant in epilepsy. Indian Noni is an effective and powerful antioxidant as it contains all antioxidant vitamins like vitamin C, Vitamin E, betacarotene and all trace minerals like zinc, selenium, calcium, phosphorus and lots of phytochemical having strong antioxidant property. Regular use of Indian Noni in epilepsy provides a powerful effective antioxidant to your body and thus helps in the curative process of epileptic patients.

According to one study a group of 13 patients suffering from generalized epilepsy has shown about 20-25% decreases in the activity of superoxide dismutase (SOD) and glutathione peroxidase (GP) in red blood cells. Out of them 9 patients were treated with the antioxidant. Prior to the treatment all patients showed abnormal electroencephalographic (EEG) changes; 4 weeks later the effects of the antioxidant appeared as positive EEG changes, reduced frequency of epileptic seizures, increased SOD activity and patients' improved general state. Thus, the addition of the antioxidant to the multitherapy of epilepsy enhances antioxidative activity and therapeutic effects. Indian Noni helps for enhancing the endogenous antioxidant system of your body. Thus Noni plays an important role in epilepsy.

Indian Noni enhances the intercellular communication. In epilepsy the intercellular electrical signals are being disturbed thus it manifests the symptoms of seizure. Noni helps in balancing the intercellular electrical signals systems and thus prevents the seizure attack in case of epilepsy.

FAQ – Effect of Noni in Various Diseases

1. WHAT IS IRRITABLE BOWEL SYNDROME (IBS) ?

The walls of the intestines are lined with layers of muscle that contract and relax as they move food from your stomach through your intestinal tract to your rectum. Normally, these muscles contract and relax in a coordinated rhythm. But if you have irritable bowel syndrome, the contractions are stronger and last longer than normal. Food is forced through your intestines more quickly, causing gas, bloating and diarrhea. In some cases, however, the opposite occurs. Food passage slows, and stools become hard and dry. Some researchers believe IBS is caused by changes in the nerves that control sensation or muscle contractions in the bowel. Others believe the central nervous system may affect the colon. And because women are two to three times as likely as men to have IBS, researchers believe that hormonal changes also play a role. Also, many women find that signs and symptoms are worse during or around their menstrual periods.

2. HOW NONI HELPS IN IBS ?

✍ In IBS it is advisable to eat a healthy diet, avoid foods that seem to make you feel worse and find ways to handle your stress. Noni is a cellular food and it contains all the essential micronutrients, vitamins, and minerals that makes Noni a perfect healthy diet

✍ Fiber can be helpful in IBS, because it improves how the intestines work. There are 2 types of fiber: soluble and insoluble. (Soluble means it dissolves in liquid.) Soluble fiber helps both diarrhea and constipation. Pectin is a soluble fiber that is rich in Noni. Hence Noni helps a lot in case of IBS

✍ An insufficient intake of folic acid can lead to constipation. NONI contain folic acid 7 to 25 mcg / 100 g .

✍ With NONI you should take minimum 12 to 16 glass of water daily. Never drink sip of water in your meal. Always take water after 45 minutes of meal.

✍ Extra stress, late night watching, irregular diet habit may be the cause of constipation and IBS. Noni also helps to keep your mind calm and quite and reduces your mental stress as it increases the serotonin secretion in your blood. The serotonin which is called the mood molecule.

3. WHY SOMETIMES NONI CAUSES DIARRHOEA AFTER USING?

Ans: Noni juice increase the smooth muscle reactions. Thus some people find that taking Noni juice initially causes diarrhea.

4. WHY SOMETIMES NONI CAUSES CAONSTIPATION AFTER USING?

In some people Noni causes constipation if takes large amount. In the lower intestinal tract the bacterial flora responds vigorously to proxeronine and begins hydrolyzing normally indigestible food fibers. Since this is an oxidation reaction occurring in an environment that lacks oxygen, the special enzymes in the bacteria use carbon instead of oxygen for the oxidation reaction. The end product of this reaction is methane gas. This inflates the intestine and lessens the effectiveness of normal peristaltic contractions. This may lead to constipation. Hence if constipation appear you should decrease the dose of Noni and dilute it with 20 times water and then take it.