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Review Article

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Astounding Therapeutic Potential of Indian Gooseberry

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ABSTRACT

Indian gooseberry is a tree that grows in India and the Middle East. Indian gooseberry has been used in Ayurvedic medicine for thousands of years. Today people still use the fruit of the tree to make medicine. Indian gooseberry is used for high cholesterol, “hardening of the arteries” (atherosclerosis), diabetes, pain and swelling of the pancreas (pancreatitis), cancer, upset stomach, eye problems, joint pain, diarrhea, dysentery, obesity, and “organ restoration.” It is also used to kill germs and reduce pain and swelling caused by the body’s reaction to injury or illness (inflammation). Indian gooseberry seems to work by reducing total cholesterol levels, including the fatty acids called triglycerides, without affecting the “good cholesterol” called high-density lipoprotein (HDL). Gooseberries are related to currants, and, like currants, they are delicious in jams, jellies, and pies. Gooseberry or aonla, the poor man’s apple is a very good source of dietary fibre and Vitamin C. This time-trusted herb boosts the immunity of the body. It works as an antioxidant to fight ageing. The gooseberry is especially beneficial in treating respiratory disorders. It also acts as a coolant and aonla-based drinks are much sought after in summer. This review manuscript delineates the nutritional importance and therapeutic potentialities of Indian gooseberries, precisely.

Keywords: HDL, Atherosclerosis, Vitamin C, Skin rejuvenator, Hair tonic, Respiratory disorders, Rheumatism, Diabetes, Scurvy

ARTICLE INFO

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1. Introduction

In traditional Indian medicine, dried and fresh fruits of the plant are used. All parts of the plant are used in various Ayurvedic/Unani medicine (*Jawarish aanonla*) herbal preparations, including the fruit, seed, leaves, root, bark and flowers. According to Ayurveda, aanonla fruit is sour (*aaonla*) and astringent (*kashaya*) in taste (*rasa*), with sweet (*madhura*), bitter (*tikta*) and pungent (*katu*) secondary tastes (*anurasas*). Its qualities (*gunas*) are light (*laghu*) and dry (*ruksha*), the postdigestive effect (*vipaka*) is sweet (*madhura*), and its energy (*virya*) is cooling (*shita*). According to Ayurveda, aanonla balances all three doshas. While aanonla is unusual in that it contains five out of the six tastes recognized by Ayurveda, it is most important to recognize the effects of the "virya", or potency, and "vipaka", or post-digestive effect. Considered in this light, aanonla is particularly helpful in reducing *pitta* due to its cooling energy. and balances both *Pitta* and *vata* by virtue of its sweet taste.

The *kapha* is balanced primarily due to its drying action. It may be used as a *rasayana* (rejuvenative) to promote longevity, and traditionally to enhance digestion (*dipanapachana*), treat constipation (*anuloma*), reduce fever (*jvaraghna*), purify the blood (*raktaprasadana*), reduce cough (*kasahara*), alleviate asthma (*svasahara*), strengthen the heart (*hrdaya*), benefit the eyes (*chakshushya*), stimulate hair growth (*romasanjana*), enliven the body (*jivaniya*), and enhance intellect (*medhya*). In Ayurvedic polyherbal formulations, Indian gooseberry is a common constituent, and most notably is the primary ingredient in an ancient herbal *rasayana* called *Chyawanprash*. This formula, which contains 43 herbal ingredients as well as clarified butter, sesame oil, sugar cane juice, and honey, was first mentioned in the Charaka Samhita as a premier rejuvenative compound.



Figure 1

One of the most popular vitamins prominent in most skin care products is ascorbic acid (vitamin C). Aanonla contains 20x the amount of vitamin C found in oranges. This anti

aging vitamin has been studied and confirmed as being an extremely effective addition to skin care routines as it is necessary for the synthesis of inter-cellular cement 'collagen'. Collagen is produced by the skin naturally and no creams or lotions can replace collagen. External application of collagen has absolutely no effect on the skin. Our skin doesn't have the ability to absorb collagen; it can only produce the same naturally. Collagen is responsible for maintaining the skin's elasticity; it keeps the skin supple and prevents cell degeneration which is the main cause of aging. When antioxidant vitamin C is added to skin, it helps our skin get rid of free radicals. Since free radicals can greatly damage our skin, the use of vitamin C is vital to our skin cells health. Vitamin C also helps to break up dead skin cells to reveal a smooth, bright complexion. According to ancient Indian Ayurvedic principles, aanonla has the ability to rejuvenate not only skin but also the heart and bones. Since free radicals can greatly damage our skin, the use of vitamin C is vital to our skin health. Vitamin C also helps to break up dead cells to reveal a smooth, bright complexion.

Indian gooseberry has undergone preliminary research, demonstrating *in vitro* antiviral and antimicrobial properties. There is preliminary evidence *in vitro* that its extracts induce apoptosis and modify gene expression in osteoclasts involved in rheumatoid arthritis and osteoporosis.^[3] It may prove to have potential activity against some cancers.^[4] One recent animal study found treatment with *E. officinalis* reduced severity of acute pancreatitis (induced by L-arginine in rats). It also promoted the spontaneous repair and regeneration process of the pancreas occurring after an acute attack.

Experimental preparations of leaves, bark or fruit have shown potential efficacy against laboratory models of disease, such as for inflammation, cancer, age-related renal disease, and diabetes. A human pilot study demonstrated a reduction of blood cholesterol levels in both normal and hypercholesterolemic men with treatment. Another recent study with alloxan-induced diabetic rats given an aqueous aanonla fruit extract has shown significant decrease of the blood glucose, as well as triglyceridemic levels and an improvement of the liver function caused by a normalization of the liver-specific enzyme alanine transaminase activity. Although these fruits are reputed to contain high amounts of ascorbic acid (vitamin C), 445 mg/100g, the specific contents are disputed, and the overall antioxidant strength of aanonla may derive instead from its high density of ellagitannins such as emblicanin A (37%), emblicanin B (33%), punigluconin (12%) and pedunculagin (14%). It also contains punicafolin and phyllanemblinin A, phyllanemblin other polyphenols: flavonoids, kaempferol, ellagic acid and gallic acid.

Although these fruits are reputed to contain high amounts of ascorbic acid (vitamin C), 445 mg/100g,^[11] the specific contents are disputed, and the overall antioxidant strength of aonla may derive instead from its high density of ellagitannins such as emblicanin A (37%), emblicanin B (33%), punigluconin (12%) and pedunculagin (14%).^[13] It also contains punicafolin and phyllanemblinin A, phyllanemblin other polyphenols: flavonoids, kaempferol, ellagic acid and gallic acid.



Figure 2

The Vitamin C in gooseberry helps in reducing blood cholesterol by dilating the blood vessels and thereby reducing the blood pressure. It also strengthens heart muscles. One tablespoonful of powdered gooseberry can be used with one glass of Luke warm water on regular basis to stabilize blood cholesterol level. Gooseberry has anti-diabetic potential. It contains Cr (chromium), which has a therapeutic value in diabetics. It stimulates the isolated group of cells that secrete the hormone insulin. Thus it reduces blood sugar in diabetic patient. Mix dried gooseberry with bitter gourd powder, and eat a pinch every morning to regulate the blood glucose levels. Frequent intake of sweet, sour, spicy and oily food causes acidity. Moreover, late night eating, and drinking coffee or tea in excess can triggers the condition of acidity. Whether you have a problem of acidity, heartburn, or reflux, gooseberry is a better substitute of antacids. It is also useful for remedies for diarrhea and dysentery. A tablespoon of gooseberry juice or powder in a glass of water can lessen all upset stomach problems instantly. If you have problem of thin and lusterless, then wash your hair with gooseberry for a week. Soak dried gooseberry in one pint of water, and then mix the juice in a tub with ordinary tap water. It will not only vigor hairs, but will also solve many problems of scalp. It will kill lice and at the same time, will add body to your limp hair. Anyone worried about graying hair would be delighted to know that gooseberry powder and henna soaked in water and left in an iron utensil can be used to get a lovely new natural color, similar to streaking. Gooseberry also enriches hair growth and hair pigmentation. It strengthens roots of hair, maintains color and adds body to hair. It raises the total protein level and helps maintaining body weight due to its richness in nutrients. Add a pinch of gooseberry powder in Luke warm water and drink it after

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every meal in order to remove the flabbiness of stomach. Gooseberry is also effective for respiratory complaints. It is wise enough to contact doctor before using Gooseberry in case of asthma or any respiratory tract disorder. Gooseberry can also improve your eye sight. Taking Gooseberry juice with honey is good for improving eyesight. It improves nearsightedness and cataract. Drinking its juice or eating marmalade or pickle can also sharpen your vision. Due to its antibacterial and astringent attributes, the gooseberry protects against infection. You can apply its juice on your skin as a toner regularly to fade off spots and to reduce pimples. Gooseberry is also a powerful antioxidant agent. . It increases red blood cell production and strengthens teeth and nails. Many health problems are conducted by oxidative damage Vitamin C is a good antioxidant agent and so is Gooseberry. Daily dose of gooseberry can relive you from day-today stresses. It can detoxify body systems efficiently. It is a perfect way to boost immunity and resistance system of body. It is a great revitalizer which thoroughly helps in reactivating whole body system. It is also used as remedies for fever, liver disorder, indigestion, anemia, urinary problems, respiratory problems, and cerebral illness.



Figure 3

In Chinese traditional therapy, this fruit is called *yuganzi* which is used to cure throat inflammation. *Emblica officinalis* tea may ameliorate diabetic neuropathy. In rats it significantly reduced blood glucose, food intake, water intake and urine output in diabetic rats compared with the non-diabetic control group. Particularly in South India, the fruit is pickled with salt, oil, and spices. Aonla is eaten raw or cooked into various dishes. In Andhra Pradesh, tender varieties are used to prepare *dal* (a lentil preparation), and *amle ka murabbah*, a sweet dish indigenous to the northern part of India (wherein the berries are soaked in sugar syrup for a long time till they are imparted the sweet flavor); it is traditionally consumed after meals. Popularly used in inks, shampoos and hair oils, the high tannin content of Indian gooseberry fruit serves as a mordant for fixing dyes in fabrics. Aonla shampoos and hair oil are traditionally believed to nourish the hair and scalp and prevent premature grey hair. The medicinal, culinary, cosmetics, aromatic and sacred applications of aonla plants were well known to Ayurveda practitioners. Aonla, Indian gooseberry, is such potent gift of nature to humankind. It contributes toward health and longevity and is an indispensable part of Ayurvedic and Unani system of

medicine. Scientific name of this tree is *Emblica officinalis* belongs to the family Euphorbiaceae. It is referred to in ancient text as the best medicine to prevent aging.

2. Therapeutic Applicability

The medicinal, culinary, cosmetics, aromatic and sacred applications of plants were well known to Ayurveda practitioners. Aaonla, Indian gooseberry, is such potent gift of nature to humankind. It contributes toward health and longevity and is an indispensable part of Ayurvedic and Unani system of medicine. Scientific name of this tree is *Emblica officinalis* belongs to the family Euphorbiaceae. It is referred to in ancient text as the best medicine to prevent aging. Other applications of aaonla are described below.

Skin Rejuvenator:

One of the most popular vitamins prominent in most skin care products is ascorbic acid (vitamin C). Aaonla contains 20x the amount of vitamin C found in oranges. This anti aging vitamin has been studied and confirmed as being an extremely effective addition to skin care routines as it is necessary for the synthesis of inter-cellular cement 'collagen'. Collagen is produced by the skin naturally and no creams or lotions can replace collagen. External application of collagen has absolutely no effect on the skin. Our skin doesn't have the ability to absorb collagen; it can only produce the same naturally. Collagen is responsible for maintaining the skin's elasticity; it keeps the skin supple and prevents cell degeneration which is the main cause of aging. When antioxidant vitamin C is added to skin, it helps our skin get rid of free radicals. Since free radicals can greatly damage our skin, the use of vitamin C is vital to our skin cells health. Vitamin C also helps to break up dead skin cells to reveal a smooth, bright complexion.

Researchers now report that people who eat plenty of vitamin C-rich food have fewer wrinkles than people whose diet contained little of it. Relative to this, they also observed that if aaonla is taken regularly as dietary supplement, it counteracts the toxic effects of prolonged exposure of environmental heavy metals like lead (Pb), aluminium (Al) and Ni (Ni) which cause environmental damages globally especially as researchers cautioned that when aaonla is dried in shade then much of the vitamin C is retained, to get the maximum out of aaonla it should be taken raw with little salt. According to ancient Indian Ayurvedic principles, aaonla has the ability to rejuvenate not only skin but also the heart and bones. Since free radicals can greatly damage our skin, the use of vitamin C is vital to our skin health. Vitamin C also helps to break up dead cells to reveal a smooth, bright complexion.

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especially as researchers cautioned that when aaonla is dried in the shade then much of the vitamin C is retained. To get the maximum out of aaonla it should be taken raw with very little salt. It is often used in the form of pickles and is dried and powdered. It is used in general vitality tonics. Aaonla is low in sugar and high in fibre which is yet benefit of aaonla. It also aids metabolism.

Good Vision and Looks: Aaonla contains 720 mg of vitamin C per 100 g of fresh fruit pulp, or up to 900 mg per 100 g of pressured juice which is required for good vision and mental development. It also aids metabolism. **Good Vision and Looks:** Aaonla contains 720 mg of vitamin C per 100 g of fresh fruit pulp, or up to 900 mg per 100 g of pressed juice which is required for good vision and mental development. Aaonla contains gallic acid, tannic acid, albumin, cellulose and minerals. Due to tannins, even dried form retains most of the vitamin content. Aaonla normalizes body function, balances the neuro-endocrine system and improves immunity. Aaonla normalizes body function, balances the neuro-endocrine system and improves immunity. **Shiny and Glossy Hair:** Aaonla's hair tonic is one of the best-kept secrets of Indian beauty, and it's one of the ways women keep their hair so shiny and strong (aside from fabulous genetics, of course).

Respiratory Disorders: Indian gooseberry is beneficial in the treatment of respiratory disorders. It is especially valuable in tuberculosis of the lungs, asthma and bronchitis. **Diabetes:** Aaonla, due to its high vitamin C content, is effective in controlling diabetes. A tablespoon of its juice mixed with a cup of bitter gourd juice, taken daily for two months will stimulate the pancreas and enable them to secrete insulin, thus reducing the blood sugar in the diabetes. Diet restrictions should be strictly observed while taking this medicine. It will also prevent eye complication in diabetes. **Heart Disorder:** Indian gooseberry is considered an effective remedy for heart disease. It tones up the functions of the organs of the body and builds up health by destroying the heterogeneous or harmful and disease causing elements. It also renews energy and possesses revitalizing effects.

Eye Disorder: the juice of Indian gooseberry with honey is useful in preventing eyesight. It is beneficial in the treatment of conjunctivitis and glaucoma, it reduces intraocular tension in a remarkable manner. A cup of juice with honey can be taken twice daily for this condition. **Rheumatism:** to treat rheumatism a teaspoon of the powder of dry fruit mixed with 2 teaspoons of jiggery can be taken daily for two months. **Scurvy:** as an extremely rich source of vitamin C, Indian gooseberry is one of the best remedy for scurvy. Powder of this fruit, mixed with an equal quantity of sugar can be taken in doses of 1 teaspoon, thrice daily with milk. It has a host of antibacterial and antifungal activities thus dandruff in the scalp and psoriasis as well. In India, it was known as miracle fruit. According to 5000 year old Indian Myth, it was considered as the nectar of the Gods because of the way it magically makes hair grows thicker, stronger and more manageable. **Respiratory**

Disorders: Indian gooseberry is beneficial in the treatment of respiratory disorders. It is especially valuable in tuberculosis of the lungs. It strengthens the lungs, helping to fight chronic lung problems as well as upper respiratory infections. Shiny and Glossy Hair: hair tonic is one of the best-kept secrets of Indian beauty, and it's one of the ways women keep their hair so shiny and strong (aside from fabulous genetics, of course). Indian gooseberry is an accepted hair tonic in traditional recipes for enriching hair growth and pigmentation. The aonla, cut into pieces is dried preferably in the shade. These pieces are boiled in coconut oil till the solid matter becomes charred. This darkish oil is excellent in preventing graying. The water in which aonla pieces are soaked overnight is also nourishing to hair and can be used for the rinse while washing the hair. Aonla is believed to enhance hair growth by stimulating the scalp, so it's often recommended for women suffering from thinning hair. It's also said to enhance wave and curl. For use as a scalp massage oil or deep conditioner, mix powdered aonla with coconut or sesame oil. To add volume, mix the powder with water to make a paste to the consistency of yogurt and let it sit for about 15 minutes to allow the powder to dissolve. To add volume, mix the powder with enough water to make a paste to the consistency of yoghurt and let it sit about 15 minutes to allow the powder to dissolve. Apply it to hair; let it soak in for a few minutes and then rinse. It is often used in the form of pickles and it is dried and powdered. The berry may also be used as vegetable. It is boiled in a small amount of water till soft and taken with a little salt. Let it soak in for a few minutes and then rinse. It stops hair loss and encourages nail and hair growth. It is used in general vitality tonics. It is also used in Trifla powder. It can be mixed with henna, basil and other herbs and be applied in hair in paste form. It is also used in trifla powder. It can be mixed with henna, basil and other herbs and applied in hair in paste form. This cures hair fall, hair graying. It dyes, beautifies hair and rids numerous hair ailments. Aonla oil is one of the world's oldest natural hair conditioners. As an Indian herb, aonla oil has been used since a very long time. It is used as hair oil basically for its cooling effect. It instantly penetrates the cuticle and fills it out. It moisturizes and hydrates the hair which adds volume naturally. It can also restore total shine and manageability without chemicals leaving the hair soft

4. Conclusion

Since centuries, people are using gooseberry for its medicinal and nutritious properties. It is very sour in taste, and it is bitter and pungent, when used in dried form. It is the best vitamin C supplement in contains as much as 20x that of an orange. The fresh fruit contains more than 80% of water besides protein, carbohydrates, fibre, minerals and vitamins. Minerals and vitamins mainly include Ca, P, Fe, carotene, Vitamin C and B complex. It also contains gallic and acetic acid. It enhances food absorption, balances stomach acid, fortifies the liver, nourishes the brain and mental functioning, supports the heart, strengthens the lungs, enhances fertility, helps the urinary system, is good for the skin, promotes healthier hair, acts as a body coolant,

and renewed. It provides nourishment to hair roots, improves blood circulation in the scalp and will instantly stop premature graying and hair loss. It has a host of antibacterial and antifungal activities thus eliminating dandruff in the scalp and psoriasis. In India, it was known as miracle fruit. According to 5000 year Indian Myth, it was considered as the nectar of the Gods because of the way it magically makes hair grows thicker, stronger and more manageable.

3. Uses of other Parts of Aonla Plant

Aonla leaves are useful in ophthalmic and incipient blindness. People use the fresh leaf juice of aonla for wound dressing. According to traditional healers the fresh leaf juice is good hair tonic and they also used the leaves in hair tonic like its fruits. This combination is a boon for leprosy patients. The application increases the rate of healing. The application increases the rate of healing. Aonla root and bark are used in scorpion bite. Aonla seeds are acrid, and useful in treatment of asthma, bronchitis, leucorrhoea, etc. Many healers use aonla seeds in treatment of diabetes.

The seeds are also used in treatment of Epistaxis, the seed powder mixed with honey is considered as good for gynaecological troubles especially in case of leucorrhoea. In case of vomiting, the traditional healers recommended it with common herb Lal Chandan (*Pterocarpus santalinus*). Fresh leaves are eaten in combination with fresh curd or whey to treat stomach related diseases and diarrhoea. The traditional healers use the leaves in different ways. For treatment of Epistaxis, they apply the fresh leaf juice with camphor on head. Researchers now report that people who eat plenty of vitamin C-rich food have fewer wrinkles than people whose diet contained little of it. Relative to this, they also observed that if aonla is taken regularly as dietary supplement, it counter acts the toxic effects of prolonged exposure of environmental heavy metals like Pb, Al and Ni which cause environmental damages globally especially as researchers cautioned that when aonla is dried in shade then much of the vitamin C is retained, to get the maximum out of aonla it should be taken raw with little salt.

flushes out toxins, increases vitality, strengthens the eyes, improves muscle tone and it acts as an antioxidant. Researchers now report that people who eat plenty of vitamin C-rich food have fewer wrinkles than people whose diet contained little of it. Relative to this, they also observed that if aonla is taken regularly as dietary supplement, it counteracts the toxic effect of prolonged exposure to environmental heavy metals like Pb, Al and Ni which cause environmental damages globally especially as researchers cautioned that when aonla is dried in the shade then much of the vitamin C is retained. To get the maximum out of aonla it should be taken raw with very little salt. It is often used in the form of pickles and is dried

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