

CHECKING FEMALE FETICIDE

Sex determination tests on pregnant women have been illegal in India for years. Sex determination tests, and preference for sons result in the selective termination of pregnancy. The widespread use of illegal tests to determine the sex of an unborn child is fueling a rise in female foeticide cases in India. India banned sex determination tests in 1994, as the gender balance became increasingly skewed. Indian laws do not, under any circumstance, allow sex determination tests to be undertaken with the intent to terminate the life of a fetus developing in the mother's womb, unless there are other absolute indications for termination of the pregnancy as specified in the MTP Act of 1971. The Medical Termination of Pregnancy Act, 1971 (MTP)[1] Act, which prohibits abortion, was enacted with a view towards containing the size of the family. However, in some cases the desire for a small family may have outweighed the desire for a child of a specific gender, leading to abortions where the sex of the fetus was different from that desired by the family. In India, where aborted female fetuses have contributed to a nationwide gender imbalance, it's illegal for doctors to reveal the sex of an unborn child. But with boys still often far more valued than girls, a lucrative business thrives underground. Though, sex determinations tests through techniques such as ultrasonography and amniocentesis are banned in India, female fetuses are still commonly killed in some regions where a preference for sons runs deep. Under the Indian Penal Code, causing an abortion, even if caused by the pregnant woman herself, is a criminal offense, unless it is done to save the life of the woman. The offense is punishable by imprisonment for a period of three years, by fine, or by both. The PNDT Act mandates that all ultrasound facilities must be registered and medical practitioners must maintain records of every scan of a pregnant woman. It states that pre-natal diagnostic techniques can be used only to detect "genetic abnormalities or metabolic disorders or chromosomal abnormalities or certain congenital malformations or sex-linked disorders". There were concerns that ultrasound technologies were being used to determine the sex of the unborn child and abort the female fetus, so the 1994 law made it illegal for medical practitioners to reveal the sex of a foetus. It is clear that sex determination and female foeticide continue because of insufficient monitoring of medical practitioners. It is observed that most parents celebrate the birth of a son, considered to be their family pride. The birth of a daughter can be a time of embarrassment and even mourning as parents, especially the poor, look toward the immense debts they'll need to take on to pay for marriage dowries. The focus on foeticide has been conveniently forgotten. Nothing is done to check illegal foeticide & hence in ground reality, the one who is involved in foeticide & sex determination moves scot-free. According to experts, the problem isn't with the Act but with its implementation. There is poor monitoring of ultrasound clinics. Such clinics are required to maintain records of the scans they conduct but the violators are often let off with a fine. On going through sex ratio at birth - the number of girls born per 1,000 boys - in India fell from 945 in 1991, to 927 in 2001, to 914 in 2011, according to census data. Government had failed in enforcing the law with a huge lobby working in favour of sex selection. In order to minimize the possibility of feticides and infanticide, it is now the need of the hour to bring necessary changes in the PNDT Act.



Remain Centred and Find the Source

If hate arises for someone or against someone, or love arises for someone, what do we do? We project it on the person. If you feel hate towards me, you forget yourself completely in your hate; only I become your object. If you feel love towards me, you forget yourself completely; only I become the object. You project your love or hate or whatsoever upon me. You forget completely the inner centre of your being; the other becomes the centre. This sutra says when hate arises or love arises, or any mood for or against anyone, do not project it on the person in question. Remember, you are the source of it.

I love you: the ordinary feeling is that you are the source of my love. That is not really so. I am the source; you are just a screen on which I project my love. And I say that you are the source of my love. This is not fact, this is fiction. I draw my love energy and project it onto you. In that love energy projected onto you, you become lovely. You may not be lovely to someone else; you may be absolutely repulsive to someone else. Why? If you are the source of love, then everyone will feel loving towards you, but you are not the source. I project love, then you become lovely; someone projects hate, then you become repulsive. And someone else doesn't project anything, he is indifferent; he may not even have looked at you. What is happening? We are projecting our own moods upon others. Remain centred. Remember that you are the source, so do not move to the other; move to the source. When you feel hate, do not go to the object. Go to the point from where the hate is coming. Go not to the person to whom it is going, but to

-Osho

External nature is only internal nature writ large.

-Swami Vivekananda

EDITORIAL

Citrus fruits for better health

■ PROF (DR) R D GUPTA

The most important commercial citrus cultivars in India are the mandarin (*Citrus reticulata Blanco*) which is also known as loose skin orange, followed by sweet orange (*Citrus sinensis*) and acid lime (*Citrus aurantium* Swingle). Commercially, Kinnow mandarin is grown in states like Punjab, Haryana, Himachal Pradesh, western part of Rajasthan and Uttar Pradesh. Apart from this, mandarin is also grown in northeastern region and Darjeeling areas by the names as Khasi mandarin and Darjeeling mandarin, respectively. In Khera district of Gujarat, Akola in Maharashtra, Ferriyakulam in Tamil Nadu acid lime is mostly grown, whereas in Vidarbha region of Maharashtra and adjoining areas of Madhya Pradesh Nagpur mandarin is grown. Contrary to this, Mosambi is grown in Marathawada region of Maharashtra, Sathgudi in Andhra Pradesh and Coorg mandarin in Coorg area of Karnataka (Singh, 1999). Although citrus cultivars of mandarin like Coorg, Nagpur, Khasi and Darjeeling have ecological differences yet are quite akin to each other. Despite producing more than four million tons of orange (worth 1,16,000 million of rupees) during 2000 on 0.2 million ha, India is only third in the list of orange growers, the other two being Brazil (17 mt), USA (9 mt) out of the annual world production of 64 mt of oranges. All citrus species yield not only valuable fruits but their every part is medicinal also, viz. roots, barks, leaves, flowers and fruits. They are suitable as home remedies as well as in Ayurvedic and Siddha systems of medicines.

Medicinal Values: Acid lime (*Citrus aurantium*) also called Leumu or Nimbu and KaziNimbu has large number of advantages. Its use in water quenches the thirst. It is useful for fever, cures indigestion and other stomach diseases. Improves light of the eyes, increases appetite and kills the bacteria of teeth when it rubs on them. It provides strength to skin and helps in dissolving fat. It also removes the pimples and spots of skin. According to Singh (2005), acid lime is a very rich source of vitamins, minerals and salt, and therefore, it is a highly nutritious food. The fruit is aperients, astringent, antipyretic and sedative. Fruit juice in water is effective in lowering hypertension. The rind of fruit is a storehouse of valuable medicinal ingredients. The rind is rubbed on effected part of the skin for cure or just rubbed for cosmetic purpose. Seed oil gives valuable tincture. Warm lemon water serves as the perfect good morning drink it aids the digestive system and makes the process of eliminating the waste products from the body easier. It prevents the problems of constipation and diarrhea by ensuring smooth bowel functions. One of the major health benefits of drinking lemon water is that it paves away for losing weight faster, thus acting as a great weight loss remedy. Lemon water flushes out body toxins and thus is extremely beneficial for the body. Lemon, a fruit popular for its therapeutic properties helps promote one's immune system and, thus, protects from the clutches of most types of infections. It also plays the role of blood purifier. Lemon is a fabulous antiseptic bestowed on us by the Mother Nature. Lime water juice works wonders

for the people having heart problems, owing to its high potassium content. So one must make it a part of his daily routine to drink a glass of warm lemon water in the morning and then open his gateway to enjoy its health benefits (Anonymous, 2007).

Recent studies indicate that among the antioxidants present in Citrus lemon (Bara Nimbu or Nibu), particularly flavonoids and flavonol glycosides have antibiotic. Recent studies indicate that among the antioxidants present in Citrus lemon (properties which protect us against ailments like leukemia and cancer).

They also protect us against infectious diseases like cholera. Lemon is also known as healing process like blood clotting limonin, a limonoid which help to reduce the total cholesterol levels in those who have high cholesterol levels. High level of vitamin C in lemon juice helps to reduce stress and depression. Individuals with a weak immune system are prone to lose vitamin C from their bodies whenever they are faced with stress. Lemon juice has a very calming effect on our nerves, making it ideal drink whenever faced with high level stress.

Gargling with lemon juice has proven to help with the curing of throat related infections such as sore throat, oral ulcers and tonsillitis. Drinking lime juice daily has also been proven to be quite beneficial for those suffering from peptic ulcers. A lemon also helps in reducing the cellulite content of the body, thereby, detoxifying the body and reduce obesity and effective against osteoarthritis.

In skin, it improves collagen levels and repairs tissue damage, helps to prevent sunburn, besides wrinkles and fights free radicals which can cause blemishes and acne. Sour orange (*Citrus aurantium*) is extremely rich in vitamin A and B1. Preparations from various parts are given in febrile inflammation, scorbutic. Rind powdered is given in ringworms infection. Its juice is diaphoretic, purgative and stomachic. Fruit peel is effective in nutritional deficiencies and in digestive problems. The essential oil from leaves is also a tonic.

It is stimulant and is given in fever, inflammation, nervous disorder, scurvy and hysteria. It is a lotion for eyes, skin, hands and all other parts. It is also given in dysentery, diarrhea, rheumatism and animal bite poisons. Decoction of leaves is given in cachexia, enlarged spleen and is emmenagogue. Dry rind is effective in dyspepsia and general debility. Fresh rind is rubbed on face in acne and eczema. Although orange is considered as one of the most popular and widely consumed fruit having a global appeal yet it is orange juice that is a star the world over. Besides making an excellent cocktails and mocktails, orange juice can be used straight as a great refreshing drink. Its health benefits are immense. The abundance of vitamin C in it helps fight flu and other common viruses. It protects from prostate and breast cancer and improves circulation of blood.

Researchers at the Brigham Young University have studied the orange in detail (Anonymous, 2010) to understand this fruit offering for maintaining good health. This popular fruit is well known for its vitamin C and blood protecting antioxidants. Orange has been

found better than taking a vitamin C capsules for meeting body's requirement of vitamin C. It has been stated that every time we take carbohydrates, it increases the amount of free radicals in our blood. Over the time, this increases our chance of hardened arteries and heart disease. But eating orange fruit safeguards us from that effect for a few hours after every meal. Consume more of fresh whole fruit such as orange to cut diarrhea as it serves diarrhea deterrent. Lime juice and sherbet made at home must be preferred to take for curing diarrhea. Oranges contain the substance inositol which regulates serotonin and insulin level resulting in fewer mood swings and relief from depression. It can also help in bringing down of fats and reduction of blood cholesterol. Grape fruit is rich in folic acid which is crucial for oxygen delivery to the brain. Grape fruit is also a key in serotonin production. A study by Tufts University in Boston found that blood levels of folate were lower in people with depression. Try grape fruit with brown sugar and angostura bitter. Researchers have noted that supplement companies often mix high concentration of extracts from blueberry and blackberry and orange and throw them all together and hope to get good results. They have further identified several combinations of antioxidants that were most synergistic - the compounds hesperidin and naringenin, in particular, appeared to contribute the most punch in the combination. Citron fruit is not only the cheap source of vitamin C all over the world after Amlaki and Guava but is also effective for correction of anorexia due its sour taste. It also increases the salivation and other gastric juices secretions related digestive mechanism. Fresh juice of citron is important in cardiovascular disorders (Chaudhuri, 2006). Fruits of all citrus plants are toning astringent and antiseptic. Being acidic, they are capable of combating oiliness (Anand, 2006).

Products Made From Oranges: Orange juice, sweet orange oil, the orange blossom, orange blossom honey and marmalade are the main products which are made from oranges.

i) Orange juice, one of the commodities traded on the New York Board of Trade, Brazil is the largest producer of orange juice in the world.

ii) Sweet orange oil, a byproduct of the juice industry produced by pressing the peel, is used as flavouring of food and drink and for its fragrance in perfume and aroma therapy. Sweet orange oil consists of 90 per cent d-Limonene, a solvent used in various household chemicals such as to condition wooden furniture and as hand cleaning agent.

iii) The orange blossom, which is the state flower of Florida, is traditionally associated with good fortune, and was popular in bridal bouquets and head wreaths for weddings for some time. In Spain, orange blossom after drying is used to make tea.

iv) All parts of the orange are used to prepare marmalade. The pith and pips are separated, and typically placed in muslin bags where they are boiled in the juice to extract their pectin, aiding in setting process.

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Global cooperation required to protect life on earth

■ SUBHANARAYAN SATAPATHY

All of us learnt about ozone in our academic books, magazines, journals that Ozone is a molecule made up of three oxygen atoms, often referenced as O₃. The ozone layer is one layer of the stratosphere, the second layer of the Earth's atmosphere. The Ozone layer is a thin part of the Earth's atmosphere that absorbs almost all of the sun's harmful ultra violet light and protects life on earth. If it was absent, millions of people would develop skin diseases and may have weakened immune systems. The main reasons for the ozone hole are chlorofluorocarbons, carbon tetrachloride, methyl bromide and hydro chlorofluorocarbons. According to NASA, each year for the past few decades during the Southern Hemisphere spring, chemical reactions involving chlorine and bromine cause ozone in the southern polar region to be destroyed rapidly and severely. This depleted region is known as the "ozone hole". The area of the ozone hole is determined from a map of total column ozone. It is calculated from the area on the Earth that is enclosed by a line with

a constant value of 220 Dobson Units. The value of 220 Dobson Units is chosen since total ozone values of less than 220 Dobson Units were not found in the historic observations over Antarctica prior to 1979. Also, from direct measurements over Antarctica, a column ozone level of less than 220 Dobson Units is a result of the ozone loss from chlorine and bromine compounds. The human activities cause the emission of halogen source gases that contain chlorine and bromine atoms. These emissions into the atmosphere ultimately lead to stratospheric ozone depletion. The source gases that contain only carbon, chlorine, and fluorine are called 'chlorofluorocarbons', usually abbreviated as CFCs. These are released by solvents, spray aerosols, refrigerators, air-conditioners, etc. The molecules of chlorofluorocarbons in the stratosphere are broken down by ultraviolet radiations and release chlorine atoms. Similarly the ozone layer has been found to be depleted by certain natural processes such as Sun-spots and stratospheric winds, volcanic eruptions etc.

So, every individual should also take

steps to prevent the depletion of the ozone layer. One should avoid using pesticides and shift to natural methods to get rid of pests instead of using chemicals. The vehicles emit a large amount of greenhouse gases that lead to global warming as well as ozone depletion. Therefore, the use of vehicles should be minimized as much as possible or a vehicle shall be used more and more. Most of the cleaning products have chemicals that affect the ozone layer. We should substitute that with eco-friendly products. Maintain air conditioners, as their malfunctions cause CFC to escape into the atmosphere. To control over the activities community and Government level interference is highly required. Now, Air Conditioners are hugely used in public and private transports like; buses, cars, aero plane ad offices, homes etc. Refrigerators are available in almost all houses. Still there is no restriction on discharging such harmful gases. There is no limit of its uses, which load over on electricity as well as contaminate pure air and harms Ozone layer. Most of the people are going away from nature.

They are enjoying the natural beauty but leaving in and depending on artificial materials and things. ACs are used not only in summer but also in all weather conditions. People are aware of its harmfulness. However, they ignore it or its optimum use reveals to stay in luxurious comfort. Though there are regulations to reduce ozone depleting substance, Montreal protocol, but regulations for people to reduce discharging such substances due to domestic, official, transport use of the machineries and control over such gases shall be formulated and implemented. When the ozone layer is thinned (depleted), more ultraviolet radiation than usual is measured to reach Earth, raising Earth's temperature and increasing risk of sunburn and skin cancer. So Individual to Country and global level effort are required to protect the layer. For sustainable development in terms of agriculture, health, livelihood, reducing disaster and quality lives, Ozone protection is everyone's responsibility for which cooperation of every person is inevitable. Thus to infer, there is Ozone Layer, there are lives on earth.

Aloe-vera: A magical herb

■ DR VIKAS SHARMA & PROLOY SANKAR

Aloe-vera is a succulent plant, belonging to the family *Asphodelaceae*, grows to a height of 60 - 100 cm, matures in 4-6 years and survives for a period of nearly 50 years under favorable conditions. Many countries like India, South Africa, the United States of America, Venezuela Aruba, Bonaire, Haiti etc. commercially cultivate this plant. The leaves of this wonderful medicinal plant are flooded with numerous vitamins, minerals, enzymes, natural sugars, amino acids etc. They are as well rich in various phytochemicals that exhibit emollient, purgative, antioxidant, anti-inflammatory, anti-helminthic, antimicrobial, aphrodisiac, antiseptic and cosmetic values. The leaves of Aloe-vera are succulent, erect and form a dense rosette. The gel made from the leaves have innumerable applications and the plant is mainly cultivated worldwide, primarily as a crop for 'Aloe gel'. These days, Aloe-vera is widely used in food. It is also approved by the FDA as a flavoring agent & as a food supplement. It is also a main ingredient in many herbal remedies. Even many cosmetic products that are prepared are based on Aloe products. Aloe-vera is known to contain around 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids.

In Aloe-vera, potentially active chemical constituents from the gel includes polysaccharides, glucomannan and acemannan and other comprises of carboxypeptidase, magnesium, zinc, calcium, glucose, cholesterol, salicylic acid, prostaglandin precursors, vitamins A, C, E, lignins, saponins, plant sterols and amino acids. The gel or mucilage obtained from the flesh of the leaf contains quite different compounds from the bitter latex extracted from the leaf lining. The emollient poly-

saccharide, glucomannan is a good moisturizer, which accounts for its use in many cosmetics. Acemannan, the major carbohydrate fraction in the gel, is a water soluble long chain mannose polymer which accelerates wound healing, modulates immune function (particularly macrophage activation and production of cytokines) and demonstrates anti-neoplastic and antiviral effects. The leaf lining's (latex, resin or sap) anthraquinone glycosides (aloin, aloë-emodin and barbaloin) are potent stimulant laxatives. These water soluble glycosides are split by intestinal bacteria into aglycones which effect the laxative action.

Immune system: Alrogen, an anti-allergic compound of Aloe-vera inhibits calcium influx into mast cells, thereby inhibiting the antigen-antibody-mediated release of various mediators like histamine, serotonin, etc. from mast cells.

Digestion: Drinking Aloe-vera juice naturally allows the body to cleanse the digestive system. It encourages the bowels to move and helps with elimination if a person is constipated and if one has diarrhea, it will help slow it down. The anthraquinones present in latex acts as potent laxatives. They do so by increasing intestinal water content, by stimulating mucus secretion and as well by increasing intestinal peristalsis.

Healing: Aloe gel has got healing properties too as it not only increases the collagen content of the wound, but also changes the collagen composition and the degree of collagen cross linking. Due to this, it accelerates wound contraction and increases the breaking strength of resulting scar tissue.

Antimicrobial: Six antiseptic agents namely lupeol, salicylic acid, urea nitrogen, cinnamic acid, phenols, sulfur, all of them exhibit inhibitory action on fungi, bacteria and viruses demonstrating its antimicrobial

activity. Another compound, acemannan acts both alone and synergistically with azidothymidine (AZT) and acyclovir to block reproduction of both Herpes and the AIDS virus.

Anti-diabetic: Aloe-vera gel is an effective anti-hyperglycemic agent against type 2 diabetes. It lowers the blood glucose level without disturbing the normal blood lipid level and liver / kidney function. It has been proposed that blood glucose level is lowered due to its increased metabolism.

Anti-aging: Aloe-vera is rich in mucopolysaccharides which help in binding moisture to the skin as it stimulates fibroblasts to produce collagen and elastic fibers thereby making the skin more elastic and less wrinkled. Moreover, the amino acids present in Aloe gel also soften hardened skin cells and zinc present in the gel acts as an astringent & tightens the pores. It has also anti-aging effect.

Anti-inflammatory: Aloe-vera by inhibiting the cyclooxygenase pathway reduces the production of prostaglandin E2 from arachidonic acid. A novel anti-inflammatory compound called C-glucosyl chromone had been isolated from Aloe gel extracts recently. Aloe-vera is a medicinal plant and due to its extensive medicinal, nutraceutical and other uses, it enjoys a great demand in the market across the globe mainly, Australia, US and the entire Europe. Due to the exponentially growing demand for it in the international market, Aloe-vera presents the finest commercial opportunity among the various medicinal plants and India is among the few countries gifted with the unique geographical features essential for cultivation of Aloe-vera and other high potential medicinal plants.

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