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Emblica Officinalis: Elixir in Pregnancy

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Abstract

During pregnancy, the physiological condition of woman gets more attention for food intake as well drug treatment. Maintaining a healthy balanced diet is important for optimal health throughout life. During childbearing age, good nutrition is important for preparing the body to fulfil the demands of pregnancy and nutrition to themselves. Macronutrient and micronutrient (e.g. vitamins, minerals) demand increases during this time.

Emblica officinalis is a valuable medicinal plant used both as medicine and as a tonic to build up and restore health of individuals. The pharmacological importance of this plant is to remove liver toxins along with lower high blood cholesterol; in kidney disorder and diabetes it has been scientifically proven with the antioxidant properties. It has been reported that E. officinalis have immuno-modulatory, anti-inflammatory, antiulcer, hepatoprotective, antipyretic, antitusive and antimicrobial actions. It has anti-oxidant and memory enhancing property. During pregnancy morning sickness, anorexia, constipation, anaemia and pregnancy induced stress are common complains in day to day practice of Obstetricians. In Ayurvedic practices of obstetrics, Amalaki powder is advised safely after 3rd month of pregnancy to minimize such complains.

Keywords: Amalaki, anaemia, anti-oxidant, pregnancy etc.

Introduction

Plants have always been considered to be one of the most important and indispensable sources of medicines in Ayurveda, used for treating different pathological conditions, as well as for improving general human well-being. Their role has been well recognized since ancient times throughout the different parts of the world. According to the world health organization, about 80% or three quarters of the total world's population rely on the traditional plant-based medicines for their primary health care¹. The WHO is encouraging, promoting and facilitating the effective use of herbal medicine for the developing countries health program.

Maintaining a healthy diet during pregnancy helps to protect both the pregnant mother and her developing baby from immediate and long-term health risks. Poor maternal nutrition is the key factor contributing to poor foetal development, which increases the risk that the baby born will be ill or die. Researches show that maternal nutritional status during pregnancy plays a more important role in determining foetal health and predisposition to some diseases.

All women experience increased nutritional requirements during pregnancy, and thus all women should ensure that they are well informed about and attempt to maintain a healthy balanced diet before and during pregnancy. However, some women may find it harder to access or consume all the necessary components of a healthy diet throughout their life and during pregnancy. For example, those who are food insecure may be unable to access enough food to nourish themselves and their baby.

During pregnancy most of the women experiences morning sickness, anorexia, constipation, cramps, frequent urination, headache and stress. Constipation and anorexia is very common in pregnancy due to increase level of hormone progesterone which relaxes the smooth muscles of the intestinal wall and stomach, resulting in a slowdown of digestion. Muscle cramps in feet, thighs or legs are extremely common during pregnancy. It is suspected that the expansion of the uterus may put pressure on the nerves and blood vessels in the leg, causing leg cramps. Due to increased demands of iron, anaemia occurs in some women.

The fruits of *Embolica officinalis* are reported to contain thermostable vitamin C, minerals, amino acids, tannins, flavonoids, and other important photochemicals which are believed to possess diverse pharmacological and biological effects².

<p>Botanical name: <i>Embolica officinalis</i> G.</p> <p>Family: Euphorbiaceae</p>	
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AYURVEDIC DESCRIPTION³

Classification	Charak Samhita-Vayasthapana, Virechanopaga, Jvarghna, Kasaghna, Kusthghna Sushruta Samhita - Triphala, Parushakadi, Amalakyadi Bhavprakash - Haritakyadi Varga
Synonyms	Amalaki, Vayasya, Vrishya, Dhatriphala, Amritaphala, Amalaka
Parts Used	Fruit mainly, Root Bark, Stem Bark, Leaf, Seed
Rasa Panchaka	Rasa - Amla, Madhura, Kashaya, Tikta, Katu Guna - Guru, Ruksha, Sheeta Virya - Sheeta Vipaka - Madhura
Doshaghnata	Tridoshashamaka (especially Pittashamaka)
Actions	Mutrala, Garbhasthapana, Rasayana, Dahaprashamana, Nadibalya, Balya, Rochana, Deepana, Anulomana, Krimighna, Vayasthapana
Rogaghnata	Mutrakricchra, Mutravarodha, Shotha, Garbhashayadaurbalya, Paittikavikara, Daha, Daurbalya, Aruchi, Vibandha
Dose	Powder (3-6 gm), Swarasa /juice (10-20 ml)

Fruit of *E. officinalis* contains⁴ –

S.No.	Component	Percentage	S.No.	Component	Percentage
1.	Moisture	81.2 %	7.	Calcium	0.05 %
2.	Protein	0.5%	8.	Phosphorus	0.02%
3.	Fat	0.1%	9.	Iron	1,2mg/100gm
4.	Mineral matter	0.7%	10.	Nicotinic acid	0.2mg/100gm
5.	Fibre	3.4 %	11.	Vitamin C	600 mg/100 gm
6.	Carbohydrate	4.1%	12.	Vitamin B ₃	0.4 mg/100 gm

Phytochemistry

E. officinalis is a good source of Vit-C, carotene, nicotinic acid, riboflavin, D-glucose, D-fructose, phyllembic acid, oleanolic aldehyde.

Embolica officinalis primarily contains tannins, alkaloids, phenolic, amino acids and carbohydrates. Its fruit juice contains the highest amount of vitamin C (478.56 mg/100 mL). The fruit when blended with other fruits boosted their nutritional quality in terms of vitamin C content⁵.

Compounds isolated from *Emblica officinalis* were galic acid, ellagic acid, 1-O galloyl-beta-D-glucose; 3,6-di-Ogalloyl- Dglucose, chebulinic acid, quercetin, chebulagic acid, corilagin; 1,6- di-O -galloyl beta D glucose, 3 Ethylgallic acid (3 ethoxy 4,5 dihydroxy benzoic acid) and isostrictiniin ⁶.

Action and Uses

The fruit is edible and has both curative as well as nutritional properties⁷.

The fruits are diuretic, astringent, cooling, carminative, digestive, laxative, tonic. It is useful in strangury, dyspepsia, flatulence, inflammations, anaemia, and emaciation.

It is also used in leucorrhoea, menorrhagia and anaemia.

Therapeutic Evaluation

The fruit is edible and nutritious, having a high content of vitamin C; approximately two to three times that of oranges. However, the antioxidant capacity of an *Emblica* extract has shown to be superior to that of ascorbic acid itself ⁸.

It is used in worms, acidity, inflammation of lungs and eyes, ulcerations, gastro-intestinal disorders and discharges, painful micturition and internal haemorrhages. (I.M.P., Kirtikar and Basu, Vol. IV)

A paste of the fruit alone or with *Nelumbium speciosum*, saffron and rose water is useful application over the pubic region in irritability of the bladder, retention of urine.

Juice prepared from the fresh fruit with or without raisins and honey is a favourite cooling drink which has a diuretic effect.

A decoction made by boiling 4 drachms each of the powder of emblic and chebulic myrobalans and one drachm of rhubarb powder in a pint of water is a laxative as well as diuretic, given in 2 ounce doses to sick people. (I.M.M., K. M.Nadkarni, Vol. II, 1982)

A sherbet of the fruit, sweetened, is a favourite cooling drink for sick people, it is said to be diuretic. (P.I., William Dymock, Vol. III, PP. 261-264)

Vit. C present in Amalaki acts as a diuretic, it also possesses bactericidal and bacteriostatic power⁸.

The fruits are anabolic, antibacterial and resistance building. They possess expectorant, cardiotonic, antipyretic, anti oxidative, anti viral and anti emetic properties.

It exerts a wide range of effects on metal ions both during their absorption from the diet as well as during their metabolism and distribution between different organs of the body.

The fruits of *E. officinalis* are reported to activate trypsin activity. (W.I., Vol. III, D-I, PP. 76-78)

Pharmacological Activity⁹

- Antibacterial,
- Antimicrobial,
- Antifungal,
- Antioxidant (gallic acid, gallotannin, ellagic acid and corilagin),
- Anti inflammatory,
- Antiulcer,
- Immuno-modulatory,
- Spasmolytic,
- Anti atherosclerotic.

Discussion

Amalaki powder contains fibres along with their ingredients which regulate bowel movements and gastro-intestinal problems. It helps to regularize the bowel movements and prevent constipation which is a common problem during pregnancy. It stimulates gastric juices and help in digestion and absorption of food. Regular use of Amalaki powder during pregnancy reduces digestive problems such as indigestion and flatulence. Vitamin c is abundant in Emblica which dilates blood vessels and normalizes blood pressure. It prevents acidity and heartburn during pregnancy. It has an energy boosting and rejuvenating property. Its sweet and sour taste helps to diminish the nauseating feeling throughout the early trimester of pregnancy.

E. officinalis has detoxifying properties that purify the blood. It scavenges and neutralizes free radicals and supports the constant supply of blood and oxygen to the developing foetus.

E. officinalis contains vit. C and iron. Vitamin C aids iron absorption by blood to maintain normal haemoglobin levels. So it helps to prevent anaemia.

Antioxidants presents in *E. officinalis* boost the immune system and prevent infection such as urinary tract infection, common cold etc which are common during pregnancy.

Calcium contents in the fruits help to fulfil the requirement of fetal bone development. During pregnancy, the calcium requirement doubles as the fetus calcium needs are extracted from mother's bone. Therefore, regular consumption of *E. officinalis* helps in calcium absorption.

It has anti-inflammatory properties, so it reduces swelling in hands and feet that are common during pregnancy.

It has high water content, so it increases urine frequency and flushes away the toxins and free radicals from body.

E. officinalis have anti-diabetic property, by lowering the blood glucose level as well potentiate the receptor concerned. So, it lowers the chance of gestational diabetes.

E. officinalis maintain the lipid profile by interference with cholesterol absorption, inhibition of HMG Co-A reductase activity, and increase in Lecithin-Cholesterol Acyltransferase (LCAT) activity. Clinical studies with Emblica have shown that it increases production of nitric oxide, glutathione, and high-density lipoprotein (HDL) or "good cholesterol". Additionally, it may decrease low-density lipoprotein (LDL) or "bad cholesterol", total cholesterol, triglycerides, and high-sensitivity C-reactive protein (hsCRP) - a marker for inflammation. It has significant hypolipidemic as well as antihypertensive effects.

Conclusion

Amalaki has an inevitable role throughout the pregnancy of a woman. Its benefits are also passed down to us from our older generations. *Emblica officinalis* is a versatile plant due to its various medicinal properties and potential effects for various ailments. Fruit of *Emblica officinalis* are rich in Vitamin C, gallic acid, tannins, flavonoids, pectin, and quercetin. It is considered to be a safe herbal medicine during pregnancy.

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