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# Medicinal Significance of Alexandrian Senna

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**Abstract**
Alexandrian senna is a perennial plant, 60-80 cm tall, glabrous to subglabrous Senna Mill. And is belong in the family Fabaceae, subfamily Caesalpinioideae, containing countless types, extensive and has various morphological characters. Alexendrian senna is evergreen shrub in all the seasons of the year, mostly two to three feet tall and grows in semi-arid soil, the stem of Senna alexendrian is straight, smooth and dark green having long branches with four to five pairs of leaflets. Alexendrian is first originated in eastward to Somalia from some wild plants it is also naturally originates in Asia from Arabian peninsula to India and Seri lanka. anthraquinonoid compounds (sennoside (A, B, C and D), flavonoid, saccharide, naphthalene derivatives, phytosterols, essential oils, waxes, tannins, mineral salts, resins, and mucilage are found as effective chemical constituents presents in Senna. Crushed pods and leaves of Senna are used to loss constipation and increase bowl movement and use as a homemade remedies for many diseases like water borne diseases including typhoid also joint, tendons ligments and bone related diseases, pneumonia, reducing fever, bacterial, viral and fungal long term infections, leukemia, jaundice, intestinal worms and use as healer for splenic enlargement. Senna is FDA approved medicine.

**Key words:** Typhoid; Pneumonia; Leukemia; Jaundice; Splenic enlargement

## Introduction

Alexandrian Senna is an evergreen shrub in all the seasons of the year which is 60-80 cm tall, glabrous to sub glabrous (Săvulescu, Georgescu, Popa, & Luchian, 2018). Senna plant having many medicinal uses which is attain from class cassia example of some important species of Senna which as follow cassia acutifolia which is commonly called Alexendrian Senna second one which is also important is cassia italica, cassia angustifolia commonly called tinnevelly or Indian Senna these important species having major medicinal values belongs to Leguminosae

family. These species of Senna are used for treating constipation (el Mula Ahmed, Makkawi, El Balla, Bashir, & El Tayeb Sulieman) the exact predicted and valued number of Senna species are count nearly 260 but some authors have confidence about the number of species of Senna are nearly 350 (Monkheang et al., 2011). Approximately 50 species of Senna are counted recognized and are popular now a days in gardening first Senna Alexandrian mill was originated from Mail eastwards after that Senna found in Somali and Kenya. Senna is also instinctive in Asia to Arabian Peninsula to India and Sri Lanka. India, Egypt, Pakistan, china, Sudan and Korea have the most profitable marketing of Senna Alexandrian mill. Senna resilient most curable and most important drug is consisting of small shrub having 2 to 3 feet's height, stem of Senna is straight pale green in color having spreading branches consisting of four to five pairs of leaflets. Flowers are also small in size and yellow in color , pods are like rectangular shape and broad and mostly contain about six seeds in each pod (Dziedzic & Hudson, 1984). The strength of Senna is due to pungency, bitter with unpleasant smell and some time it is sweet in taste which is very much effective. It is easy to chew, during chewing and after digestion it produce unpleasant smell and pungency in taste , it performance is like laxative (Ramchander & Middha, 2017).

The drug preparation companies treats cassia angustifolia dry leaves and seed pods powder treats against constipation other specie cassia senna is also use against constipation not. only powder of dry leaves and seed pod but leaves extract of both species also use for the preparation of drug against constipation for marketing, besides that specie cassia acutifolia senna is medicinally very active and works against bacterial, viral and fungal infections as well as have laxative properties (Deshpande & Bhalsing, 2013) numerous other confirm active pharmaceutical properties of senna species are as follow senna acts as anti-allergic, work against inflammation, work as anti-oxidant, works against bacterial infection, work against microbial diseases, act as pain killer, act as insecticide, works against tumor, works as liver protective and acts as antifungal are described (Ahmad, Tandon, Xuan, & Nooreen, 2017) numerous researches are working to describe the majors effects of sennosides, as we know the main constituents of senna are sennosides with having defensive, antioxidant, natural defensive strengthening, anti-inflammatory properties and having many other medicinal properties which are also beneficial for health (Farid et al., 2020).

Senna roots are also very important in controlling menstrual flow and long lasting sexually transmitted disease in both male and female, which mostly effects genitals , rectum and throat, another most important use of fresh juice from Senna leaves is very popular and use as effective medicine for skin infections like pus filled bumps in side skin and skin inflammations etc.it is also confirmed that in Nigeria the leaves of senna acutifolia are curable for lungs related diseases and like normal cough and lungs infections, and sap od seena is also use with mixture of other drugs for normalize body temperature and seed of senna is use to cure eye infections like pinkeye (Monkheang et al., 2011).

Some studies proved and describe bioactive chemicals in senna species isolations are anthraquinones predominantly chrysophanol and fisciona (Maia, Trevisan, Silva, Breuer, & Owen, 2017). There a different species of senna having different uses for example lock is a specie of senna having very active chemicals for the treatment of skin diseases such as eczema, scabies and ringworm and pod extract is use as laxative. The market value of senna is due to leaves and pods which have medicinal value. Not only medicinal uses but many species of senna like senna spectabilis is grown as ornamental and grow for shade only. The chemical constituents

contain by senna are mostly medicinal compounds of the anthraquinone family, which differ from specie to specie some time these chemicals act as poison if taken in excess (JENSON, 2018).

**Anti-fungal activity of Senna**

Senna is famous by it activity against fungal infection, and fight against DNA of E.coli bacteria. The chemical constituent sennosides disturb intestinal tract and induce diarrhea. Senna effects the cultures of bacteria e coli, produce cuts in DNA and work against fungal diseases (Ramchander & Middha, 2017).

**Anti-microbial activity of Senna**

Now a days microbiologist doing research on plant products for prepare drugs against microbial diseases because plants products are decomposable and not having any side effect ,not harm for human health (Dubey, Srivastava, & Kumar, 2008). Still not very clear information and data available on plants which having anti-microbial activity, there are about 4,00,000 plant species present universally, and very few plant out of 4,00,000 plants are recognized which works against microbial infections, in this era demand of plant product is very high in market according to interest in traditional medicine.it is accepted that the plant green product or green medicine is not harm and have no side effect and more reliable than the artificial drug, as we are well aware synthetic drug have many side effects .as we know cassia specie is very much active medicinal plant which heals many diseases the reason behind that is content is hydroxyanthraquinone derivatives.it is clearly mentioned in British pharmacopeia about the cassia species.

The class cassia with cassia acutifolia Del commonly called Alexandria senna or cassia angustifolia vahl commonly called Indian senna is considered as certified specie have laxative properties (Viswanathan & Nallamuthu, 2012). It is also cleared that the chemical constituents (ethanol, methanol, petroleum ether and aqueous solutions) present in cassia angustifolia works against microbial diseases .these chemical constituents were extracted and the effectiveness of these chemical compounds was measured by the help of disc diffusion method for following bacteria's Gram positive bacteria-Staphylococcus aureus, Gram negative-Escherichia coli and Pseudomonas aeruginosa and fungi-Aspergillus niger, Aspergillus flavus, Fusarium oxisporum and Rhizopus stolonifera .besides that some other chemicals also reported out from those chemical extracts which show that alkaloids, flavonoids, carbohydrates, proteins, tannins and triterpenoids are also available in cassia angustifolia (Kumar, Arora, & Verma, 2013).

**Uses of Indian Senna**

Some important remedies of Senna use for different diseases, if we take 1-2 dosage powder of dry leaf with hot water is very effective and beneficial for constipation and abdominal discomforts .To heal different skin diseases and external body infection the paste of cassia angustifolia leaf mix with few drop of vinegar is very effective. The powder of Senna leaf also good for treating abdominal worms, rheumatoid arthritis, gout and constipation if we use powder of Senna leaf in dosage of 1-2.seeds or pods of Senna in dehydrated form is very important for liver because it produce energy which helps in digestion another one major important feature of Senna is that it acts as a blood cleanser and purify blood if we take 500 mg senna leaves on daily basis .Senna is also use for the treatment and control of hemorrhoid and also use for controlling weight .the medicinally active chemical constituent anthraquinones

present in Senna destroys and inhibit the following bacteria (staphylococci and bacillus coli) and dermatomyces (microsporum audouinii) etc (Ramchander & Middha, 2017). Senna is plant having many important medicinal uses and acts as colon cleanser and also recommended to heal hemorrhoids. As it contains very active chemical component known as sennosides that act on the lining of the bowel causing a emetic effect Constipation or hard stools is one of the generating factors for causing and worsening hemorrhoids (Schulz, Hänsel, & Tyler, 2001).

**Senna (Senna alexandrina Mill.) leaves extract with Pomegranate (Punica granatum L.) Leaves Extracts acts as Antiobesity, Antidiabetic and Antioxidant**

Obesity and diabetes are major health problems, obesity is condition in which excess fats accumulates in the body which also effects the system of lipid and glucose digestion, that is why obesity and diabetes mellitus have strong connection (Sharma & Staels, 2007). Additionally if the system of lipid and glucose digestion affects it contributes to oxidative stress mechanism by disseminating to the body. It is a fact that if oxidative stress produce it start affecting the function of many organs of the body and stops the anti-oxidative stress mechanism of the body. It is also confirmed that oxidative stress play important role to contribute diabetes mellitus .diabetes mellitus is normally define as a condition characterized by hyperglycemia (increase blood glucose level from normal level) and also affects the adjustment system of carbohydrates, lipids and fats in the body. Two types of diabetes mellitus type 1 and type 2 diabetes mellitus caused by deficiency of insulin in pancreas (Jauniaux, Poston, & Burton, 2006).

Diabetes mellitus also effects micro vessels, macro vessels, cardio vessels, renal vessels and also affects the blood vessels of the brain due to blockage of these all type of vascular system they contributes to microangiopathy, cardiovascular diseases renal diseases and cerebrovascular diseases (Chawla, Chawla, & Jaggi, 2016). To find the solution against obesity and diabetes mellitus researchers using strategies for developing drugs by investigation of potent lipase inhibitors and digesting enzyme inhibitors (such as alpha-glucosidase and alpha-amylase enzymes) from natural plant product for medicinal use . normally orlistat and acarbose these are synthetic drug use to inhibit these enzymes in obesity and type 2 diabetes mellitus but these drugs also produce some side effects.

Therefore it is important to investigate the drug from natural plant product to cure or control obesity and diabetes millitus by inhibiting pancreatic lipase enzyme and digesting enzyme in obesity and diabetic patients with having no side effect .in many studies and research explains that natural plant product which act as antioxidants also have a strong relation with antiobesity and antidiabetic effect in simple the plant product which having anti-oxidative effect also have potential to act as antiobesity and anti-diabetic drug and control both these health problems. Senna (Senna alexandrina Mill.) and pomegranate (Punica granatum L.) are commonly used for medicinal purposes all parts of senna and pomegranate are beneficial for health and no any side effect. These plants are found in Africa, India ,and Asia .the fruits, pods and leaves of Senna are pharmacologically very active and work as purgative, laxative and diuretic (Yuniarto, Sukandar, Fidrianny, Setiawan, & Ketut, 2018).

## Conclusion

Senna is very energetic plant and have important value in market and traditional medicinal system. Senna is rich source of sennosides, glycosides and other nutrients and can provide a solution to the problem of starvation and other diseases to a great extent. Senna can work as a purgative. Sometimes in some people, senna can cause diarrhea. Diarrhea can increase the effects of warfarin and increase the risk of bleeding. If you take warfarin, do not take excessive amounts of senna.

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