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Original Research Article

On Valuation of Traditional Medicinal Plants to the Treatment of Asthma

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Abstract

The existing Research revealed the traditional understanding of medicinal plants used to treat respiratory ailments sicknesses and asthma disease in country via various tribal groups. The current studies are founded on the review from various surceases & it makes accessible all-inclusive knowledge about herbal medicine & their parts used for the treatments of asthma by many tribal groups in India. Traditional-medicinal plants use 95 species with their botanical names, family, and used parts of plants. The mode of administration and distribution of the plants in India were documented by the belonging 85 types from 56 family plants. The current study provides a vision of the use of these plants in the cure of bronchitis by several tribal people in India.

Keywords: Angiosperms, Asthma, Traditional-Medicine.

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Introduction

Asthma is a disease of lungs air. The disease affects 155 million pet patients around the world. Its Frequency and cruelty so the results in kids have enlarged knowingly over the world previous 40 years. It differs from 5-30 per cent of the dissimilar populations 1,2. It takes affected 14^{th}-15^{th} million Persons in the U.S., counting a projected 4.8 million broods. Medicinal plants are useful as resources for several bioactive compounds which are directly or indirectly used in the treatment of human beings this period old people consume remained traveling, and using various plant parts and products to treatment terminal ailments. Asthma disease is one of the lethal diseases to affect's a million of people pass on every year all over the world. It rights a fair segment of losses in India too. Asthma disease affects the air route that carrcarriessn the way the o lunge. All people with this chronic ailment, whether it was recurrent or long-lasting, were diagnosed with asthma. The most typical asthma symptoms are wheezing, coughing, tightness in the chest, and shortness of breath. According to WHO 2001 assessment, nearly 80 percent of the world's people relies on herbal traditional medicines for their medical requirements, particularly in tribal and rural areas. In 2005, over 255,000 people died as a result of asthma, which affected an estimated 300 million people globally (WHO, 2004). Most asthma deaths (80%) were recorded in people with low and lower blood pressure.

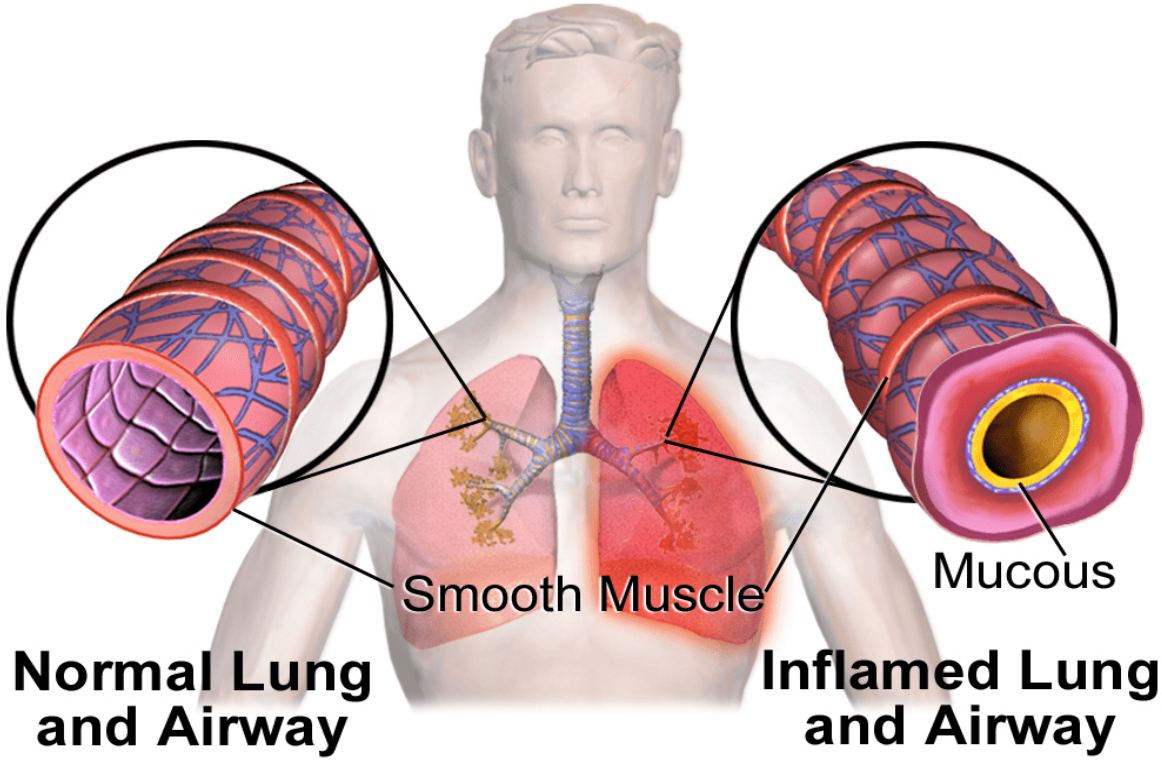

Figure 1: Variance between Normal Lung and Airway and Inflamed Normal Lung

Middle-income nations (Braman, 2006). Throughout the beginning of time, indigenous cultures all over the world have used plants and plant parts as an ethnomedicine to delicacy a variety of. In India, the Rig-Veda, which dates from between 4500 and 1600 BC, is thought to be the first collection of human traditional acquaintance on the therapeutic usages of plants. For the treatment of asthma, India's Ayurveda and Nanosystems systems of medicine listed a number of herbs. Similar to how original acquaintance has developed independently in various parts of the world, tribal societies employ this knowledge to treat a variety of maladies. Various asthma attacks are brought on by allergies like dirt, mould microorganisms, mites, animal hair, or feathers; however, cold air or an infection like the common cold can also bring on an asthma attack. Asthma attacks are frequently brought on by stress or, more precisely, acute anxiety, which can occasionally lead to a vicious cycle of attacks, worry, and more attacks. Thus, a variety of etiological factors might be implicated in this recurrent issue 15.

There are numerous groupings that can be used.:

Extrinsic Asthma: Allergies to specific foods, pet fur, or household dust might result in extrinsic asthma. This causes 10–20% of adult asthma.

Intrinsic Asthma: It caused by physiological and psychological stress, hereditary factors, structural issues, infections, pollution, and other factors. These are the 30–50 per cent of adult asthma causes. The causes of Intrinsic Asthma symptoms include genetics, structural

issues, infections, toxins, and physiological and psychological stress. People with asthma experience symptoms widely in severity and frequency. Some individuals only experience mild, infrequent episodes; they are symptom-free otherwise. Others experience mild coughing and wheezing the most of the time, with severe flare-ups of symptoms occurring after exposure to known allergens, virus illnesses, exercise, or other irritants.

The severity of an acute asthma attack has been divided into a number of stages:

Mild: Sufficient air exchange, diffuse wheezing, and mild dyspnea.

Moderate: At rest, there is breathing difficulty, hyperpnea, activation of the auxiliary muscles, and obvious wheezes.

Severe: Respiratory discomfort that is obvious, cyanosis, the utilisation of auxiliary muscles, and obvious wheezes or no breath sounds.

Respiratory Failure: Severe respiratory abnormal; lethargy; confusion; prominent pulses paradoxus. Use of accessory muscles 16, 17.

Medicinal Plants used in Asthma: While several synthetic medications are utilized to treat the acute asthma attacks, their long-term safety is not guaranteed. As a result, efforts have been made to once more investigate natural remedies, which can be utilised to treat asthma.

Table 1 discusses some traditional herbs with anti-asthmatic properties.

Family	Plant Name	Parts Used	Preparation
Pinaceae	*Abies webbiana Lindl.*	Leaves	Use dried leaves powder in tiny amounts twice per day
Euphorbiaceae	*Acalypha Indica L.*	Whole plant	Prepared, per day 50 ml taken, for 1 week orally
Acanthaceae	*Acanthus ilicifolius L.*	Full plant	Prepared hole plant taken is taken per day,
Acanthaceae	*Adhatoda vasica Nees.*	Leaves and roots	Piper longum fruits and Solanum surrattense leaves ground into a powder, one gramme of which is combined with honey and consumed orally for a week.
Polypodiaceae	*Adiantum aethiopicum L.*	Leaves	leaves used to smoke
Simaroubaceae	*Ailanthus excelsa Roxb.*	Root Bark	Morning and night, 20 ml of fresh root bark juice combined with an equal amount of curd should be consumed.
Zingiberaceae	*Amomum costatum Benth.*	Seeds	Used seed Powder taken orally Perday
Commelinaceae	*Aneilema scapiflorum Wight*	Root Bark	Root and Bark
Apiaceae	*Apium graveolens L.*	Seeds	The seeds have a laxative, scorching,

Asteraceae	*Artemisia vulgaris L.*	Leaves and flowering tops	Its infusion given
Scrophulariaceae	*Bacopa monnieri (L.) Pennell*	Whole Plant	Dried plant powder is given internally
Euphorbiaceae	*Baliospermum montanum Muell. - Arg*	Leaves	A decoction of the leaves is given daily
Saxifragaceae	*Bergenia ligulata (Wall.) Engl.*	Root	Extract of roots given daily
Nyctaginaceae	*Boerheavia diffusa L.*	Root	Root decoction is taken twice a day for 3 to 4 weeks to treat
Fabaceae	*Caesalpinia crista L.*	Seeds	Powder of seeds taken in doses of 0.7 to 2.0 g with equal parts of black pepper
Asclepiadaceae	*Calotropis gigantean (L.) R.Br. ex Ait.*	Flowers	Flowers used in powder form daily
Capparidaceae	*Capparis deciduas Edgew.*	Stem bark	Decoction of stem bark (10 to 15 ml) is administered twice a day
Fabaceae	*Cassia alata L*	Leaves and Flowers	Decoction of leaves and flowers given
Fabaceae	*Cassia occidentalis L*	Leaves and roots	Decoction of leaves and roots given
Fabaceae	*Cassia tora L.*	Leaves	Leaf decoction is given in
Celastraceae	*Catha edulis Forsk.*	Leaves	Infusion of leaves given daily
Chenopodiaceae	*Chenopodium botrys L.*	Whole plant	Extract of the plant given
Vitaceae	*Cissus quadrangularis L.*	Stem	Stem pounded in water is given orally twice a day for 5 days
Verbenaceae	*Clerodendrum indicum (L.) Ktze*	Root	Powder of roots eaten orally twice a day
Amaryllidaceae	*Curculigo orchioides Gaertn*	Rhizome	Juice, 15 ml mixed with honey taken twice a day orally
Solanaceae	*Datura metal Mill.*	Leaf	Dried leaf powder has smoked a

			cigarette twice a day for 2 to 3 weeks to get relief
Poaceae	*Dactylotenium aegypticum (L.) P. Beauv.*	Culm	Decoction of the culm is given daily
Loranthaceae	*Dendrophthoe falcata (L.f.) Ett.*	Stem bark	The bark has narcotic and astringent properties. Bark Powder has eaten orally daily
Fabaceae	*Desmodium gangeticum DC.*	Root	Roots juice, 50 ml taken twice a day orally
Gleicheniaceae	*Dicranopteris linearis (Burm.)*	Fronds	Extract fronds in the small amount taken per day
Apiaceae	*Dorema ammoniacum D. Don*	Gum resin (Latex)	It is expectorant and eaten twice a day orally
Euphorbiaceae	*Emblica officinalis Gaertn.*	Seeds	Seeds are mixed with Clove (*Syzygium aromaticum*) in equal amounts and roasted in a pan. The mixture is then powdered and 5g of it is given to the patient
Gnetaceae	*Ephedra gerardiana Wall.*	Whole plant	Juice of berry given for treatment
Fabaceae	*Erythrina stricta Roxb.*	Stem bark	Stem bark paste is taken orally daily
Myrtaceae	*Eucalyptus globules Labill.*	Leaves	Leaves oil taken for treatment
Euphorbiaceae	*Euphorbia hirta L.*	Whole plan	Plant juice is useful for the treatment

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Euphorbiaceae	*Euphorbia tirucalli L.*	Whole plan	Ash, 250 to 500 mg taken twice a day orally
Convolvulaceae	*Evolvulus alsinoides L.*	Leaves	Leaves of the plant smoked during infection
Apiaceae (Umbelliferae)	*Ferula galbaniflua Boiss. Et Buhse*	Gum resin	Gum resin given as tonic daily
Apiaceae (Umbelliferae)	*Ferula narthex Boiss*	Gum resin	Gum resin gave as a tonic daily
Moraceae	*Ficus heterophylla L. f*	Root bark	The bark of the root was pulverized and mixed with coriander seeds given twice for one week
Moraceae	*Ficus rumphii Bl.*	Fruit juice of the plant	Its fruit juice after mixing with turmeric, pepper, and butter fat considered efficacious
Liliaceae	*Fritillaria cirrhosa D. Don*	Dried corms	Taken in the powdered form daily
Liliaceae	*Fritillaria roylei Hook*	Bulbs	Powdered and boiled with orange skin and taken orally in the morning
Burseraceae	*Garuga pinnata Roxb*	Leaves	Juice of leaves mixed with honey given daily to patient
Ericaceae	*Gaultheria trichophytic Royle*	Fruit	Violet fruits in the small amount eaten daily for a cure
Asclepiadaceae	*Hemidesmus indicus (L.) R.Br. var indices*	Root	Decoction of roots gives relief
Malpighiaceae	*Hiptage benghalensis Kurz*	Leaves	Leaves juice taken daily
Solanaceae	*Hyoscyamus niger L.*	Leaves	It is used as a sedative
Lamiaceae	*Hyssopus officinalis L.*	Whole plant	Infusion of the plant as an expectorant was taken to cure this

Asteraceae	*Inula grantioides Boiss*	Whole plant	It is given steeped in water to patients
Acanthaceae	*Justicia procumbens L*	Whole plant	Infusion of the herb is given daily to patients
Acanthaceae	*Justicia adhatoda L.*	Leaves	Decoction of leaves in a small amount taken daily for three weeks
Cucurbitaceae	*Kedrostis rostrata Cogn.*	Root	Roots are cut into pieces and kept in water to obtain infusion. About 20 ml of it is given daily
Asteraceae	*Lactuca serriola L.*	Whole plant	The plant expectorant and its infusion are useful for treatment if taken daily in a small amount
Cruciferae	*Lepidium sativum L*	Whole plant	Plant juice is administered to patients
Cucurbitaceae	*Luffa acutangula (L.) Roxb*	Whole plant	The plant extract was given daily for one week
Lauraceae	*Machilus macrantha Nees.*	Stem bark	The decoction of powdered bark is made with honey and taken daily
Marantaceae	*Maranta arundinacea L.*	Rhizome	Rhizome powder along with milk taken orally daily
Sapotaceae	*Madhuca malabarica (Bedd.) R.N. Parker*	Fruit	Fruit is eaten directly during this disease
Anacardiaceae	*Mangifera indica L*	Seed	Powder of seeds taken directly with water
Fabaceae	*Mimosa pudica L*	Whole plant	Plant juice mixed with coconut milk is used internally for treatment
Pontederiaceae	*Monochoria vaginalis Prese*	Leaves	Infusion of leaves eaten with sugar daily
Rubiaceae	*Morinda citrifolia L.*	Fruit	Baked fruit is eaten daily to cure
Fabaceae	*Mucuna monosperma DC.*	Seeds	Seed powder is eaten twice a day
Myricaceae	*Myrica nagi Thunb.*	Stem bark	Decoction of bark taken daily
Brassicaceae	*Nasturtium indicum DC*	Seeds	The powder is taken twice a day in a small amount

Solanaceae	*Nicotiana tobacco L.*	Flower	10 to 12 g flowers are burnt to ash and contained in an air-tight pot and 2 g of this ash is given with Piper betel L. leaf once a day for a cure
Ochnaceae	*Ochna pumila Ham.ex D. Don.*	Root	Root extract is taken daily
Rubiaceae	*Oedenlandia heynei HK. f*	Leaves	Leaf extract is taken orally once a day for 3 to 4 weeks to get relief
Passifloraceae	*Passiflora foetida L.*	Leaves	Fruit decoction is taken orally along with 50 ml of honey 2 times daily
Asclepiadaceae	*Pergularia extensa NE Br.*	Leaves	Decoction of leaves is given twice a day for 30 days to cure
Araceae	*Pistia stratiotes L*	Leaves	Mixed with rose water and sugar given to patients
Apocynaceae	*Plumeria rubra L.*	Leaves	Leaf extracts taken orally twice a day for three weeks
Fabaceae	*Poinciana pulecherrima L.*	Flowers	Infusion is given during asthma
Araceae	*Pothos scandens L*	Stem	Cut up with camphor smoked like tobacco for treatment
Fabaceae	*Pseudartheria viscida W&A*	Root	Root juice is taken twice a day
Fagaceae	*Quercus incana Roxb.*	Stem bark	Stem Bark powder decoction is taken daily (50 ml)
Ranunculaceae	*Ranunculus aquatilis L.*	Whole plant	Plant extract is taken daily
Sapindaceae	*Sapindus trifoliatus L.*	Fruit	Juice of fruit taken daily one time
Asteraceae	*Saussurea lappa C.B. Cl*	Root	Used as spasmodic to cure this
Sapindaceae	*Sapindus emarginatus Vah*	Fruit	Fruits (3 to 4) eaten directly
Malvaceae	*Sida cordifolia L.*	Root	Roots powder, 150 to 450 mg taken per day or decoction, 50 ml taken twice a day by mouth
Taxaceae	*Taxus baccata L*	Leaves	Its leaves are considered antispasmodic, and useful for asthma

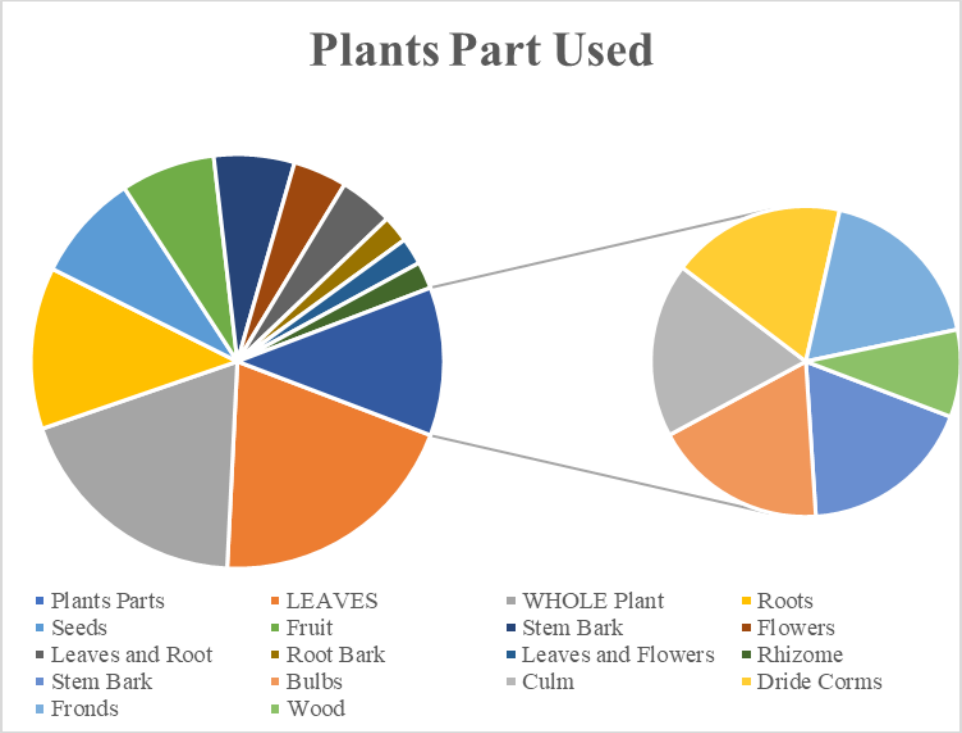

Figure 2: **The statistics of the various medicinal plant parts used to treat asthma are shown in a pie chart.**

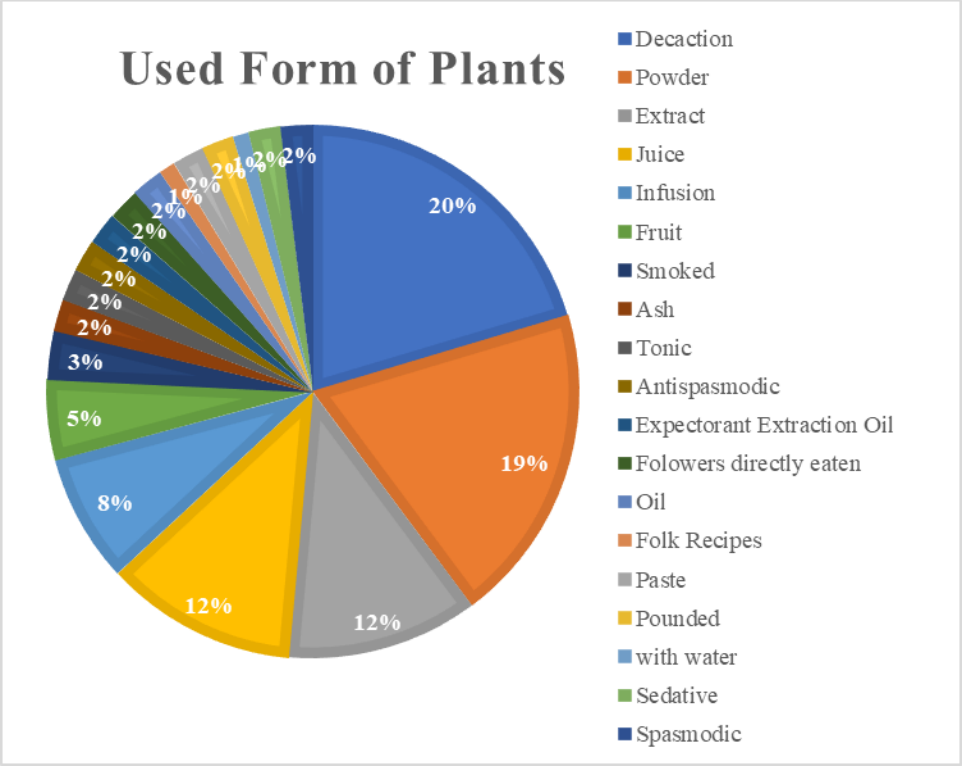

Figure 3: **Pie chart showing various medicinal plant species used to treat asthma in various forms.**

Results and Discussion

95 plant species that are highly effective at treating the asthma disease were studied as part of the current investigation. (Tab. 1). There are 56 plant families and 85 genera represented by these 95 species, 91 were angiosperms, including 82 dicots & 9 monocots. Gymnosperms and ferns each have two species (Table 2). Among them Cassia and Ranunculus were prominent genera with three species each, while Euphorbia, Ferula, Ficus, Fritillaria, Justiciar, and Sapindus were represented by two genera each, while the remainder genera were only represented by single species. Taxus baccata and Abies windrow were used to depict gymnosperms, and Dicranopteris linearis and Adiantum aethiopicum were used to represent ferns. With 11 species, the Fabaceae family dominated the field of treating asthma by the Asteraceae and Euphorbiaceae families, which each had five species. According to statistics, the leaves of ninety plant species, the full plants of 18, the roots of 12 species, the seeds of 8 species, the fruit of 7 species, and the seeds of 12 species were all utilised to cure asthma. the stem bark was used from 6 species, the flowers and leaves along with roots were used from 4 species each, the root bark from three species was used, the leaves and flowers, rhizome and stem were used from 2 species each and bulb, culm, dried corms, fronds, and wood was used from 1 species each, respectively (Figure 1). Of the total number of plants, 21 were utilised as a decoction, 20 as powder, and 12 as extract and juice, respectively. Eight different plant species' components were given as an infusion. During the asthma condition, the fruits of 5 plants were eaten straight away. The tribal communities used the smoke of three plant species, dry ash of two plant species, and tonic of two plant species to treat asthma. For the treatment of asthma, other plant species were used as an antispasmodic, expectorant, oil extract, flowers consumed raw in the form of oil, folk recipes, paste, pounded with water, sedative, and spasmodic (Figure 2). Although some traditional tribal communities and some individuals who believed in the use of herbal remedies are still efficiently practising the herbal therapy, their information about their use is steadily fading (Raju, 1995). This study provided evidence of how distinct tribal people in India treated asthma by using specific plant species. The large-scale exploration of these plant resources will benefit to herbals use their distribution in country. The pharmaceutical industries have a high demand for these conventional plant resources, from which they have isolated various bioactive chemicals for the creation of innovative medications. The general public will also look into this study for the use of herbs in the cure of asthma disease. The utilisation of plant assets in the form of medicinal by people would have an essential function in the asthma cure in India, it is argued, because modern society is increasingly dependent on allopathic pharmaceuticals for the asthma cure.

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