Overview on Plant Cassia Sophera Linn

Shivakant Shukla*, Anoop Singh

ABSTRACT

Medicinal herbs are moving from fringe to mainstream use, with a more significant number of people seeking remedies and health approaches free from side effects caused by synthetic chemicals. Cassia sophera Linn. (Caesalpinaceae), an important drug in Unani medicine, act as a blood purifier, carminative, purgative, digestive, and diaphoretic. Many compounds have been reported from plants belonging to the genus Cassia. This article aims to provide a comprehensive review of the phytochemical and pharmacological aspects of Cassia sophera. It is obtained from deciduous and mixed-monsoon forests throughout greater parts of India, ascending to 1300 m in outer Himalaya. It is widely used in the traditional medicinal system of India and has been reported to possess analgesic, anticonvulsant, antioxidant, anti-inflammatory, hepatoprotective and antasthmatic activity, etc. India officially recognizes over 3000 plants for their medicinal value. It is generally estimated that over 6000 plants in India are in use in traditional, folk, and herbal medicine.

Keywords: Cassia sophera, hepatoprotective, anticonvulsant, anti-inflammatory, carminative, purgative

Journal of Applied Pharmaceutical Sciences and Research, (2020); DOI: 10.31069/japsr.v3i1.3

INTRODUCTION

Plants have great potential uses, especially as traditional medicine and pharmacopoeial drugs. A large proportion of the world’s population depends on traditional medicine because of the scarcity and high costs of orthodox medicine. Medicinal plants have provided modern medicine with numerous plant-derived therapeutic agents. Many plants contain a variety of phytopharmaceuticals, which have very important applications in the fields of agriculture, human and veterinary medicine. Natural products play a dominant role in the development of novel drug leads for the treatment and prevention of diseases. The need to screen plants for pharmaceuticals is particularly urgent in the light of rapid deforestation and the concurrent loss of biodiversity throughout the world. It is very important to have sufficient knowledge regarding herbs not only because of their widespread use but also because they have the potentials to cause reactions or interact with other drugs. For example, senna (Cassia acutifolia) and germander (Teucrium polium) can induce hepatotoxicity. Although in traditional medicine, Cassia species have been well known for their laxative and purgative properties and the treatment of skin diseases, there is now an increasing body of scientific evidence demonstrating that the plants possess many other beneficial properties. Cassia sophera Linn. (Caesalpinaceae) known as ‘Kasondi’ is an important drug of the Islamic System of Medicine (Unani Medicine). The plant is found throughout India and in most tropical countries. It is common in wastelands, on roadsides, and in the forests. Root bark is used for the preparation of the medicine. Ancient Indian physicians have used it for its efficacy in respiratory disorders. According to the physicians of Unani medicine, three plants viz., Cassia occidentalis Linn., Cassia sophera Linn. and Cassia sophra, Linn. Var. purpurea, Roxb. are varieties of ‘Kasondi’ and are invariably used in similar pathological conditions. ‘Kasondi’ is described in Unani literature to be repulsive of morbid humor, resolvent, blood purifier, carminative, purgative, digestive, diaphoretic and reported to be useful in epilepsy, ascites, dyscrasia of liver, skin disorders, piles, jaundice, fever, atarticular pain, and palpitation. In ethnobotanical literature, it is mentioned to be effective in the treatment of pityriasis, psoriasis, asthma, acute bronchitis, cough, diabetes and convulsions of children. The chemical analysis of seed of Cassia sophera, Linn. revealed the presence of ascorbic acid, dehydroascorbic acid, and β-sitosterol. Still, no scientific study is reported on the varietal level of the plant.

Department of Pharmacy, Bhagwant University, Sikar Road Ajmer, India

Corresponding Author: Shivakant Shukla, Department of Pharmacy, Bhagwant University, Sikar Road Ajmer, India, Email: shivakantpharma@gmail.com

How to cite this article: Shukla S, Singh A. Overview on Plant Cassia Sophera Linn. Journal of Applied Pharmaceutical Sciences and Research, 2020; 3(1):11-13

Source of support: Nil
Conflict of interest: None

The fruits (pod) and the flowers of Cassia sophera Linn. are shown in Figures 1 and 2.

Botanical Description

<table>
<thead>
<tr>
<th>Plant Characters</th>
<th>Plant Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>Hill Plant, Plainland</td>
</tr>
<tr>
<td>Plant type</td>
<td>Shrub</td>
</tr>
<tr>
<td>Foliage</td>
<td>Evergreen</td>
</tr>
<tr>
<td>Roots</td>
<td>Deep roots, Taproots</td>
</tr>
<tr>
<td>Type of stem</td>
<td>Soft wooded</td>
</tr>
<tr>
<td>Leaf type</td>
<td>Lanceolate, Oblong, Pinnate compound</td>
</tr>
<tr>
<td>Leaf arrangement</td>
<td>Alternate distichous</td>
</tr>
<tr>
<td>Leaf color</td>
<td>Green</td>
</tr>
<tr>
<td>Leaf surface</td>
<td>Glabrous</td>
</tr>
<tr>
<td>Plant height</td>
<td>Very small (0-5 meters)</td>
</tr>
<tr>
<td>Plant utilities</td>
<td>Industrial/commercial</td>
</tr>
</tbody>
</table>

Figure 1: Cassia sophera fruits
Overview on Plant Cassia Sophora Linn

Antioxidant Activity

Cassia sophera leaves possess significant antioxidant activity as compared to standard Ascorbic acid.

Hepatoprotective Activity

The ethanolic extract of leaves of Cassia sophera demonstrates excellent antioxidant potential as compared to the test drug that may be useful in both types of epileptic conditions.

Anti-Inflammatory Activity

Cassia sophera leaves possess significant antiasthmatic activity which can be attributed due to its bronchodilating, antihistaminic, antiasthmatic, anti-inflammatory activity suggestive of its potential in prophylaxis and management of asthma.

Antiasthmatic Activity

Cassia sophera leaves possess significant antiasthmatic activity which can be attributed due to its bronchodilating, antihistaminic, antiasthmatic, and antiallergic activity suggestive of its potential in prophylaxis and management of asthma.

Anticonvulsant Activity

The ethanolic extract of leaves of Cassia sophera could effectively control the AST, ALT, ALP, and total bilirubin levels and increase the protein levels in the protective studies. The histopathological studies substantiated the activity of the drug. This scientifically supports the usage of this plant in traditional medicine for the treatment of liver disorders and as a tonic.

Antidiabetic Activity

The antidiabetic principles present in ethanolic extract (90%) of the leaves of Cassia sophera as a herbal drug for antidiabetic and antilipidemic activity, and the mucilage obtained from the seeds is used as a binder in tablet formulations. In a nutshell, Cassia sophera is a miracle herb with so many pharmacological potentials. More studies are still needed on every part of the drug so that exact mechanisms of action can be framed on the basis of more accurate findings.

REFERENCES

Overview on Plant Cassia Sophera Linn

9. The Ayurvedic Pharmacopoeia of India. 1:13