

KAZI NAZRUL UNIVERSITY



RANIGANJ GIRLS' COLLEGE

DEPARTMENT OF GEOGRAPHY

COURSE NAME-ENVIRONMENT STUDIES

COURSE CODE-AEE101

TOPIC-QUALITATIVE STUDY OF MEDICINAL PLANT "KALMEGH"

SUBMITTED BY-B.SC HONOURS 1ST SEMESTER

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Raniganj Girls' College

Course Name: Environment Studies

Course Code: AEE101

Topic of the project: QUALITATIVE STUDY OF MEDICINAL PLANTS

A Project Report

Submitted by Semester-I students

(Academic Year 2021-22)

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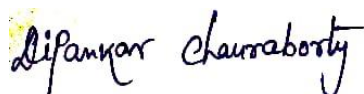
CERTIFICATE

This is to certify that this project titled “QUALITATIVE STUDY OF MEDICINAL PLANTS” submitted by the students for the award of degree of B.A. Honours/ Program is a bonafide record of work carried out under my guidance and supervision.

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Date: 07.03.2022



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REGISTRATION CERTIFICATE

This is to certify that **MOUMITA BANERJEE**

Son/Daughter of **PURNAJIT BANERJEE**

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is registered as a student of this University,

His/Her registration number is **113211220026 of 2021-22**



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Date: 07/03/2022

Moumita Banerjee
Student's Signature

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MEDICINAL PLANT:

A medicinal plant is one used by people for medicinal purposes - to build or maintain health, stave off disease or promote recovery from illness or misfortune. No precise definition is possible given this wide scope and because the use of plants as medicines grades into their use for other purposes, for example, for food, personal hygiene, beauty-care, psychological support and spiritual practices.

Traditions of healthcare must have always been features of human societies and from the evidence available it seems that plants have normally been accorded lead roles in therapy. Even today traditional medicine (based largely on herbs) supports the primary healthcare of more people globally than 'conventional' or Western medicine.

INTRODUCTION

Kalmegh is a plant which is also known as "Green Chiretta" and the "King of Bitters". It is used for various medicinal purposes and is bitter in taste.

It is mainly used for liver problems as it protects the liver against damage caused by free radicals due to its antioxidant and anti-inflammatory activity. Kalmegh also helps to boost immunity and is used to manage the symptoms of the common cold, sinusitis and allergies due to its antimicrobial and immunomodulatory properties. Kalmegh might be good for diabetics as it is effective in lowering blood sugar levels by increasing insulin secretion. It also helps in manage blood pressure by widening the blood vessels and increasing blood flow.

According to Ayurveda, taking Kalmegh Churna regularly helps to manage arthritis by reducing the Ama and also stimulates appetite by improving the digestive fire.

Kalmegh powder along with coconut oil can be applied on the skin manage eczema, boils and skin infections due to its antioxidant, antimicrobial and anti-inflammatory properties. Kalmegh is bitter in taste so it is advisable to take it with some sweetener.

SCIENTIFIC CLASSIFICATION OF KALMEGH



(Source: https://en.m.wikipedia.org/wiki/Andrographis_paniculata)

- Binomial name: *Andrographis paniculata*
Kingdom: Plantae
English name: Kalmegh
Order: Lamiales
Family: Acanthaceae
Genus: *Andrographis*
Species: *A. paniculata*

Distribution: The species is distributed in tropical Asian countries, often in isolated patches. It can be found in a variety of habitats, such as plains, hillsides, coastlines, and disturbed and cultivated areas such as roadsides and farms.

BENEFITS OF KALMEGH

Benefits of Kalmegh for liver disease :-

✳ Modern science view - Kalmegh might be beneficial in the management of liver problems. It has antioxidant, anti-inflammatory and hepatoprotective properties. It prevents the damage of liver cells caused by the free radicals. It might also be effective against chronic hepatitis B viral infection.

✳ Ayurvedic view - Kalmegh is especially useful in managing liver-related diseases. It exhibits hepatoprotective property due to Kapha and pitta balancing nature.

Benefits of Kalmegh for influenza :-

✳ Modern science view - Kalmegh might be beneficial in the management of influenza. Andrographolide in Kalmegh has antiviral and anti-inflammatory properties. It inhibits the replication of influenza virus. It also decreases the activity of inflammatory mediators responsible for inflammation of lungs.

Benefits of Kalmegh for sinusitis :-

✳ Ayurvedic view - Kalmegh might be beneficial in the

management of sinusitis. This might be due to its antimicrobial, anti-inflammatory and immunomodulatory properties.

♥ Ayurvedic view - Kalmegh helps to fight against infection and also enhances the immune system. This is due to its Kapha and pitta balancing properties.

Benefits of Kalmegh for Allergic conditions:-

⊗ Modern science view - Kalmegh might be beneficial in the management of allergy symptoms. This might be due to its anti-allergic and anti-inflammatory properties.

♥ Ayurvedic view - Kalmegh is good to control allergies. It has an anti-microbial activity and has a positive effect on the immune system due to its Kapha and pitta balancing property.

Benefits of Kalmegh for HIV infection:-

Kalmegh might be beneficial in the management of HIV/AIDS. Andrographolide in Kalmegh has antiviral and anti-HIV properties. It prevents the spread of HIV infection. It also reduces the symptoms associated with HIV.

Benefits of Kalmegh for Tonsillitis:-

Modern science view Kalmegh is beneficial in the management of tonsillitis. It has antimicrobial, anti-inflammatory and immunomodulatory properties. It might inhibit the inflammation of the tonsils. It also reduces symptoms like fever, sore throat and cough associated with tonsillitis.

Ayurvedic view - Kalmegh has anti-microbial activity and has a positive effect on the immune system due to its kapha and pitta balancing property. It helps to reduce fever and sore throat due to tonsillitis.

Benefits of Kalmegh for Heart disease :-

Modern science view Kalmegh might be beneficial in the management of high blood pressure. It helps to dilate the blood vessels and improves the blood flow. Andrographolide in Kalmegh has antioxidant properties. It protects the blood vessels against damage caused by lipid peroxidation. It also protects the heart cells against injury due to lack of oxygen.

Benefits of Kalmegh for skin disorders :-

Ayurvedic view - Kalmegh has blood purifying property. It removes toxins from the blood and hence helps to manage skin diseases. This is due to its Tikta (bitter) and pitta balancing property.

Precautions When Using Kalmegh :-

Advice from experts-

Ayurvedic view Take Kalmegh with natural sweeteners since its taste is highly bitter.

Breastfeeding-

Modern Science view- Avoid the use of Kalmegh during breastfeeding.



Other Interaction- (Source: <https://www.google.com/search?q=kalmegh+photo&ocq=choso+me>)

www.google.com/search?q=kalmegh+photo&ocq=choso+me

Modern Science view - ① Kalmegh possess immunomodulatory effects. So it is generally advisable to consult a doctor while taking Kalmegh if you are on therapy of immunomodulatory drugs.

② Kalmegh may interact with anti-coagulants. So it is generally advisable to consult your doctor while taking Kalmegh with anticoagulant drugs.

patients with diabetes-

Modern Science view- Kalmegh may lower the blood sugar levels. So it is generally advisable to monitor your blood sugar levels while taking Kalmegh along with antidiabetic drugs.

Kalmegh may lower the blood sugar levels monitor your blood sugar levels while taking Kalmegh

along with anti diabetic medicines due to tikta (bitter) Rasa and Kapha balancing properties.

REASON FOR CHOOSING:-

Kalmegh [*Andrographis paniculata*] herb is a scioiophytic in nature and possess versatile medicinal properties due to which its requirements upsurge in the industries.

The adsorption of Kalmegh (*Andrographis paniculata*) leaves extract obeyed Langmuir adsorption isotherm.

Kalmegh (*Andrographis paniculata*) leaves extract acted as mixed type inhibitor.

The FTIR Spectrum showed that the inhibition is due to the formation of the film on the metal/acid solution interface through adsorption of Kalmegh leaves extract molecules.

CONCLUSION

Medicinal plants are inseparable from local livelihoods because they have long been collected, consumed, and managed through local customs and knowledge.

Present study is the first comprehensive analysis of the genetic diversity present among *A paniculata* accessions, collected from five different agro-ecological regions of India using arbitrary amplified and gene targeted markers. Study revealed a good amount of diversity present in the Indian *A paniculata* accessions. The cluster analysis with all four markers systems showed that there was no agro-ecological region based grouping.

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PLANT'S NAME-KALMEGH
(ANDROGRAPHIS PANICULATA)
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