



**IMPORTANCE OF HERBAL MEDICINE IN TREATMENT
OF DENGUE FEVER – REVIEW**

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Abstract:

Dengue Fever is a disease caused by a family of viruses that are transmitted by mosquitoes. The “dengue triad” is a characteristic which include symptoms like severe muscle and joint pain, lymphadenopathy and bleeding gums. According to WHO, it estimates that approximately 22,000 deaths occurs annually, mainly among children. Indian medicinal herbs are gaining so much importance now-a-days due to their less side effects and more therapeutic efficacy and also used in the treatment of ailments such as asthma, fever, cough malaria etc. In our present review the use of natural home remedies using medicinal herbs such as Neem, Tulasi, Hogweed and Coriander etc for the treatment of dengue fever has been discussed.

Keywords: Dengue, herbs, therapeutic efficacy

Introduction:

Dengue is a viral disease mainly transmitts to humans by *Aedes aegypti* Mosquitoes (2). DEN-1, DEN-2, DEN-3 and DEN-4 are the four types of viruses. If anyone is affected with anyone serotype then it cause life long immunity (3). Dengue fever is caused by an

Arthropod borne virus, Genus – Flavivirus and Family – Flaviviridae. Dengue has been reported since the 18th century. All the intervals of 10 to 40 years in Asia, Africa and North America many epidemics occured at that time. The World Health Organization (WHO) estimates that 2.5 billion people live in over 100 endemic countries and areas where dengue viruses can be transmitted (17). A recent study estimated that there were more people at risk of dengue infection calculating that up to 3.97 billion people are at risk in 128 countries. Approximately 50 million infections occur annually with 500 000 cases of DHF(17).

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Received on: April 2014

Accepted after revision: May 2014

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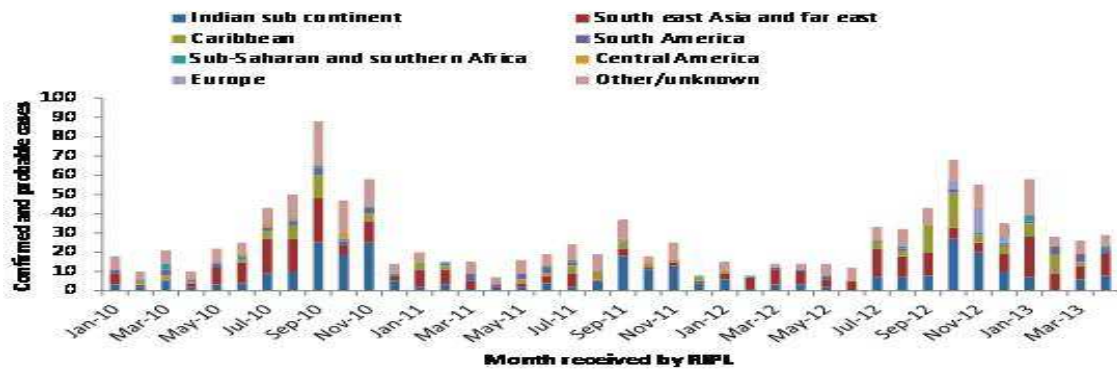


Figure 1. Laboratory-confirmed and probable cases of dengue fever by month and country of travel, England, Wales and Northern Ireland: 2010-April 2013

Around the world herbal medicines have become an interesting area in traditional medicinal systems. The advantages of Herbal drugs are mainly due to their less side effects, more therapeutic efficacy and due to their less cost and it is easily available(1). The term Antiviral has been defined in very broad terms as substances other than a virus or virus containing vaccine or specific antibody which can produce either a protective or therapeutic effect to the clear detectable advantage of the virus infected host.(4).

There are three types of Dengue fever ie. Classic Dengue Fever, Dengue Hemorrhagic Fever and Dengue Shock Fever.(6).

Incubation Period:

It is the time between infected mosquito bite and the occurrence of symptoms of Dengue fever in the person who is bitten by mosquitoes.

Symptoms of Dengue Fever:(7)

- High fever with feeling of “Thandi Lagna” (chills).
- Rashes on the whole body
- Headache , muscle pains and joint pains.
- Loss of energy, nausea and vomiting sensation.
- Pain in abdomen
- Throat pain.
- Leakage of blood from blood vessels.
- The illness can last up to 10days but complete recovery can take as long as a month.
- In severe cases the patient’s condition may suddenly deteriorate.

- After few days the temperature of the body drops followed by signs of circulatory failure and the patient may rapidly go into a critical state of shock and die within 12 to 24hrs or quickly recover with appropriate medical treatment.

Prevention:

- There is a old saying “Prevention is better than cure”. The wise man’s words are worth listening and paying attention to.
- Proper solid waste disposal and improved water storage practices, including covering containers to prevent laying of eggs by female mosquitoes can be obliging.
- Application of appropriate insecticides to larval habitats present in water storage vessels can prevent mosquito breeding for several weeks but it must be re-applied periodically.
- Continuous surveillance and education of the clinician is essential for the recognition of the risk factors of Dengue haemorrhagic fever.
- Application of insecticides as space sprays to kill adult mosquitoes using portable or truck mounted machines.

Herbs used in the treatment of dengue:

Neem(12):

Introduction:

Family – Meliaceae

Botanical Name – *Azadirachta indica*

Plant Parts Used – neem leaves are used

Uses – Used as a purifying agent and Anti-inflammatory.



Neem is having many medicinal properties. Leaves of Neem is used in curing Leprosy, Eye disorder, Bloody nose, Intestinal worms, Stomach upset, Loss of appetite and Skin ulcers.

Application: Neem leaves are taken and extracted and it should be applied on a damp warm cloth.

Dosage: Dosage of between 15 to 60gms 2-3 times daily.

Caution: Females seeking pregnancy should not take this.

Papaya(11):

Introduction:

Biological Name – *Carica papaya*

Family – Caricaceae

Plant Parts Used - Leaves

Uses - Papaya is mainly used in the treatment of increasing platelet and white blood cells.

Papaya raw nutritional value contains Vitamin C, Magnesium, Phosphorous, Vitamin B1, Vitamin B2, Vitamin B6 and Proteins.(5)



Method of Preparation:

Papaya leaves are taken and pounded and squeezed with a cloth to strain, the juice was filtered.

One leaf of papaya gives one table spoon full of juice.

Dose: 2 table spoon full of papaya juice per day.

Caution:

Papaya leaves should not be boiled because it loses its active constituents upon boiling.

Papain enzyme is used for dissolving the proteins and for indigestion and stomach inflammation.

Coriander:

Introduction:

Biological name – *Coriander Sativum*

Family – Apiaceae

Plant Part Used – Leaves

Uses – Anti-inflammatory



Coriander is native to regions of Southern Europe and North Africa to South Western Asia.

Coriandrum sativum leaves are taken in the form of tonic to reduce the fever.

DOSE:

2 table spoons per day.

Kakamachi:

It is also known as Black Night Shade

Biological Source – *Solanum Nigrum*

Family – Solanaceae

Uses – Soothing Effect

Black night shade is a cooling drink which removes negative toxins which are caused due to attack of dengue from the digestive system and purify it.

Dose: 2 cups of syrup daily.



Chyavanprash:

- Chyavanprash is a jam like mixture of herbs, spices and other ingredients prepared as per the ayurvedic traditions. Chyavanprash is used mainly for the medicinal purpose like immunobooster, purifies the blood and increases the blood count.
- The purpose of using chyavanprash for treating dengue is it mainly consists of Amla which is rich in Vitamin C and also reduces the fever.
- Specially it gives strength for children and old people.
- Herbs used in the preparation of chyavanprash is Ashwagandha, Asparagus, Amla, Bamboo Manna, Blue Egyptian Water Lily, Cardamom, Chebulic Myrobalan, Cinnamon Bark, Clove, Country Mallow etc..



Hogweed:

Biological Source – *Heracleum Sphondylium*

Family – Apiaceae

It is used to reduce the temperature. It produces plenty of perspirations which flushes the toxins and brings the fever down.



Hermal:

It is also known as Indian Herb

Plant parts used – Seeds

It is also known as ‘wild rue’ or ‘Syrian Rue’, is a thickest like herb.

Hermal is useful for chronic instances like stimulating the central nervous system, remedying Asthma, expelling tapeworm etc.

Hermal is advantageous in treating the periodical diminishing and irregular fever.

Seeds of hermal are powdered and taken as either an infusion or as a decoction to intermittent and recurrent fever that is observed in dengue.

Precautions - The drug should be used only in ordained dosages. In higher dosages, it might testify lethal and give rise to terrible depressant action on the nervous system.



BASIL:

BIOLOGICAL NAME – *Ocimum Basilicum*

FAMILY – Lamiaceae

PLANT PARTS USED – Leaves

USES – Strengthens the body defence mechanism

METHOD OF PREPARATION:

Basil leaves are taken and they are boiled in 200ml of water on low heat then the juice is taken daily.

DOSE: 2-3 times a day.



Tulasi:

Biological Name – *Ocimum Sanctum*

Family – Lamiaceae

Plant Parts Used – Leaves

It is widely known across South Asia as a medicinal plant and an herbal tea and it is commonly used in ayurveda which can prevent an outbreak of dengue.

It strengthens the body against fever.

Method of Preparation:

Mix 10 pieces of leaf and one black pepper

Grind it and make pea size pills.

Use with water.



Chirayata removes the toxins (Ama) and detoxifies the body completely and it makes it a good herb for rejuvenation. Chirayata is one of the herbs which reduces the toxins and also gives best nutrition to the body. It reduces the extra body fat and weight and gives proper energy to the body. Being strong bitter herb, Chirayata is as good anti-inflammatory herb. Chirayata has tremendous medicinal properties in the reduction of fever and it is used for remedying the convulsions that accompany fevers in denge.

Dose:Decoction – 60-100ml

Powder – 2-6gms.

Dhatura:(14)

Family – Solanaceae

Plant Parts Used – leaves

Uses – Reduces the fever.

Its leaves have potency in reducing the seriousness of dengue fever. However the dosage must not exceed 2 decigrams or it will lead to severe negative symptoms.



Shunti Churna:

Botanical Name : *Zingiber officinale*

Family : Zinziberacea

Method of Preparation:

Mix 300mg of Shunti Churna with 20mg of Hinguleshwar and take this atleast 3times a day with hot water.

Dose: 1-2gms of shunti churna.



Chirayata:(15)

BIOLOGICAL NAME – *Swertia chirata*

It makes Chirayata as a best drug of choice for Kapha and Pitta related diseases.

Conclusion:

This review brings out the true picture of certain herbs which reveals their potency in curing dengue fever in accordance with their specific dosages. Extracts of these herbs can also be used in carrying out certain activities which can signify their utilisation further and their usage can be enhanced through Novel Drug Delivery System as a novel route of drug delivery in the current scenario.

Acknowledgement:

Authors are thankful to Faculty of Pharmacy and the management of Sri Ramachandra University, Porur, Chennai for their continuous support through out this review work.

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