

## A Properties and Uses of “Dhoop” Prepared for a Medicinal Uses

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### ABSTRACT:-

In India every occasion, festival, cultural event, cleansing the environmental area and make it fresher, etc. In Ayurveda, Unani, homeopathy the ancient science of life, has continuously focused on the nature and maintenance the good health. In various cultures such as homa/havans, cow dung, pure ghee, animal urine to use as feel pleasant. The incense of Dhoop gives the people positive thinking in a daily life. The major role of the Dhoop is disinfectants and cleanse the environment. In market the various chemical product is available, but the one and only natural product for disinfectant and cleanser are made up from the pure herbal and pure natural substance. The antimicrobial activity is prepared from the Dhoop and checked and found the potential source for the disinfectant in various hospital, hotels, labs, etc. The major role Dhoop also in Ayurveda. The Ayurvedic fumigation, Dhoopana is an example of a drug delivery through the inhalation route having the several advantages including of the drug administration, higher bioavailability, and high potential to penetrate the blood brain barrier. Multiple fragrance is used to prepare the Dhoop such as neem leaves, Kashmir camphor, rose, pineapple, Mogra, etc. The Dhoop preparation in this work is with an aim to reduce the usage of chemical or disinfectants to cleanse the environment as well as eco-friendly treatment on cold and cough. The herbal Dhoop using Cow Ghee, Cow Dung, Ajwain seeds (*Trachyspermum Ammi*) having fragrance. The Different type of incense sticks and found. It explains the benefits of Dhoop and its uses like antimicrobial, mosquito repellent, limitation.

### Keywords: -

- Antimicrobial activity, herbal plants, cow dung, cow ghee, cow milk, Dhoop.
- Ayurveda Dhoopana, Dhoop, Ajwain, Herbal cough and cold.
- Incense, Pollution.

### I. INTRODUCTION: -

In the today's generation the major role concern is the change in the environment. The level of the continuous pollution has drawn the attention of the population. The survival of the human in this planet, the basic need is a scrubbed environment. Clean environment consists of clean air to breathe, pure water for drinking, pure and fertile land, and proper source of energy. <sup>[1-2]</sup> The present of microorganism in the air is the primary cause of many airborne diseases. The Pathogens that are responsible for the air borne diseases spread through air from infected person to non-infected person are act as, laughing coughing, and sneezing. The present of microorganism in the air is the primary cause of many airborne diseases. The Pathogens that are responsible for the air borne diseases spread through air from infected person to non-infected person are act as, laughing coughing, and sneezing. As per the U.S. Centers for the Disease Control a trickle of flu has the potential to travel up to six feet. The current situation, for having clean air to breathe many approaches are implemented to cleanse it. For the similar many chemical alternatives are available in the market, but they do have many undesirable effects that can difficult the health of organisms. <sup>[3-4]</sup> The environment has been a crucial concern in today's generation. The continuous pollution all around has accumulate the attention of many people. A good environment that comprises good air, water, energy, and land, is essential for the human alive. <sup>[5-6]</sup> Disease causes the pathogens are organisms that spread from an infected person to another person through act as sneezing, coughing, and talking also laughing and breathing. According to United State Centers for Disease Controller, the flu drop can travel up to 6 feet away! The Numerous efforts are being taken to filtered the air in several methods. The Various chemicals are available in the market for the same. But the side effects and the impact of them on living organisms cannot be disregard <sup>[7-8]</sup>.

The Among earliest civilizations, the India has been known to be rich storage of a medicinal plants. The timberland in India is the foremost store of a bigger number of

a therapeutic and a fragrant plant, which are to a great extent collected as crude materials for a fabricate of the drugs and scent the items. The Siddha, Ayurveda, Unani and Tribal medicines are the major systems of the domestic medicines. Among the systems, Ayurveda and Unani Medicine are most developed and broadly the practiced in India. Ayurveda, the ancient science of life, has always focused on the nurture and maintenance of good health in an independent. The health of an independent is the end of the result of total sum of the processes inside his body as well as his surroundings. The soothsayer of Ayurveda realized this dynamic equation and priority on the importance of man and his environment. The concepts of Din Charya, Ratri-Charya and Ritu-Charya present in the classical exposition provide an insight as to the influence of environment upon the health of an individual<sup>[9]</sup>. In most various religious practices such as Homa/Hawan, cow dung, cow urine, cow ghee, cow milk, camphor, etc. Has been use in an order to good the environment and feel better pleasant.<sup>[9-13]</sup> The herbal Dhoopana stick is produced from natural sources and has an attractive fragrance. The Dhoopana stick are the usage of natural for antimicrobial of air in various places such as washroom, hospitals, households, etc.<sup>[10-14]</sup> The production of Dhoopana by which natural source and are use as natural drugs of herbal, herb mineral or animal origin, coughing, sneezing, etc. The period of Vedic environment around & sterilization of house it by Dhoopana fragrance, has been Forward to on traditionally. Dhoop will be mentioned in "Atharva Veda." The Dhoopana are found in Bruhatrayi proving their vital role in cleansing agent, sanitize and sterilization. The production has been used widely since longer.

Considering the importance of natural products and improving the environment, we try to use herbal products to clean the air in special places and create a beautiful atmosphere thanks to their scents. Therefore, current research focuses on the development of a natural Dhoop stick that can be used effectively in reducing microbial flora in aviation. Cow dung has been used as an antiseptic in different families since ancient times. Dravya's Dhoopana said Bruhatrayi has ability to control other disease and antibiotics in an economical and environmentally friendly manner without the development of resistant bacteria. Detailed studies are needed to identify the bioactive substance in the sample and established the safety and efficacy profile. To the benefits of Dhoopana formulations,

there is a need to design, characterize and commercialize Dhoopana formulations to provide natural, environmentally friendly, and affordable product. Common side effects of cough medicine include dizziness, drowsiness, diarrhea, headache, nausea, and constipation. Some recommended cough medicines may contain additional ingredients. Other disadvantages of traditional cough medicine include the development of resistance, toxicity, and ayurvedic reactions. Therefore, Dhoopana an important role as an antiseptic and Ayurvedic healing process in modern times. This eco-friendly and economical technology is a viable option to treat respiratory disease in developing countries like India. Incense from different brand and sectors contains the powder. Rice flour is usually made from rice flour, sawdust, glue, and spices. Fragrance plays an important in perfumery because it helps create scents. The aroma can be of any type such as Rose, Mogra, Jasmine, Chameli.<sup>[15-17]</sup> Herbal products, in addition to cleaning the air, offer products such as fragrance that can create a positive feeling in the area where they are used. The current project focuses on expanding the development process of Dhoop sticks that can be used as alternative medicines that reduce the microbial load in the air. All the ingredients required to prepare Dhoop sticks are natural. Ingredients include cow drug, clarified cream, herbs and milk. Cow dung has used as an antiseptic since ancient times.<sup>[18-21]</sup> In many religions, cow dung, camphor, cow urine, cow oil, etc. the materials are used to help cleanse and make happy during sadhanas, such as in homes or scared spaces.<sup>[22-26]</sup> These aromatic substances are obtained from plants in the form of plants extracts or chemical called phytochemicals derived from them. The products obtained are volatile organic compound such as polycyclic hydrocarbons and polyaromatic hydrocarbons. When burned, these aromatic substances release the smell we experience when burning incense. These aromatic materials can tree, herbs, essential oils, and resins and be used alone or in combination to make incense.<sup>[27-28]</sup>

Aromatic products can also be obtained from animals, but their use can be problematic for many religions. Compared to spices derived from plants, the number of species obtained from animals is small. The most commonly used spices obtained from animals are cinnamon, ambergris, and musk. It is a product obtained from animals such as algae and mollusks.<sup>[29]</sup> the gill cover is made of a protein called conchiolin.<sup>[30-</sup>

<sup>31]</sup>Conchiolin is like a keratin protein. Keratin is a protein found in the nails and horns of animals and humans. The basic materials, wood sawdust and charcoal, ensure that the incense burns correctly and completely. <sup>[32]</sup> Finally, adhesives for spices such as incense powder and charcoal for bamboo work well. Also incense sticks will be different when entering the market because the elders of incense products will add some confidential information about their business. A substance called diethyl phthalate (DEP) is added to many commercial Indian perfumes to reduce smoke. <sup>[33]</sup> In some countries, disinfectants are also added to fragrances to ensure they contain fragrance and pesticides. <sup>[34]</sup>

## 2. Important Role of Ayurveda in Dhoopana Stick

### A) Ayurveda

#### Dhoopana -Ayurvedic Disinfection pattern

Ayurveda is very important in the prevention of medicine and explains various methods for disinfection of the disease target pattern. Fumigation (Dhoopana), using various chemicals, is a safe, natural and cost effective method. Herbal medicine, herbal medicines of animal origin with anti-inflammatory and antibacterial properties can be used alone or in combination. Dhoopanaartha (fumigation sticks) can be made out of drugs for easy administration.

#### Benefits:

It is used for disinfect rooms and the environment, especially during rainy and winter months. It also helps control pests, rodents and insects, and thus preventing the spread of disease free retaining Purified and sterile treatment rooms, postpartum and newborn room. It is used to control wounds, fever, poisonings, medicine in ear, nose and throat, gynecology and psychology. Making Dhoopana before storing herbs and grains helps in extending their shelf life and retaining their strength.

## 3. Fragrances

### a). Camphor

Scientific name :- Cinnamomum camphor

Camphor Is often used In dhoopbatti (Incense sticks) as a fragrance and for Its aromatic properties. It has a distinctive and pleasant smell that can add to the overall aroma of the Ince when It burns. Camphor Is commonly used In various cultural and religious rituals In India and other parts of the world.

### b). Rose

Scientific name :- Rosa Indica

Rose Is often used as a fragrance In Dhoopbatti ( Incense sticks ). Rose has a sweet and floral aroma that can contribute to the pleasant scent of the Incense when It burns. It's a popular choice for Its soothing and aromatic properties.

### c). Jasmine

Scientific name :- Jasmimum

Jasmine Is a popular and traditional fragrance used In Dhoopbatti (Incense sticks). Jasmine's sweet and floral aroma Is often used In Incense to create a pleasant and soothing atmosphere. It Is highly appreciated for It's aromatic properties and Is commonly used In various cultural and religious practices.

### d). Pineapple

Scientific name:- Ananas comosus

It is a considered the natural fragrance and the ayurvedic herbs has a great significance in controlling disease and purifies the environment. Pineapple cones are widely used in temples, mortars and homes during worship. Burn Dhoop occasions to make your loved ones have your and loved. Pineapple cones are during prayers in temples, mortars, and homes.

## 4. Different types of Incense and Dhoopbatti in India

### 4.1. Incense

For generations, India has embraced the use of incense, employing it in various social and religious ceremonies. The indigenous term for incense sticks in India is "agarbatti." These agarbatti's are crafted by wrapping incense paste around bamboo sticks. India took the pioneering step of introducing a uniform system for incense preparation, marking its commitment to this ancient practice.

In the contemporary landscape of incense production, the responsibility of crafting these aromatic sticks often falls upon medicinal priests. These individuals, with their knowledge of traditional healing practices, play a vital role in the modern system of incense making. It reflects a harmonious blend of ancient rituals and contemporary methods.

Beyond India's borders, a widespread belief prevails in many cultures that burning incense carries mystical healing powers. This transcultural recognition underscores the universal appeal and

significance attributed to the act of burning incense.<sup>[35-55]</sup>

#### 4.1.1. Types of incense<sup>[56]</sup>

**Incense comes in various types, each known for its unique healing properties.**

**1. Dragon's Blood Incense**, known for its distinctive properties, is believed to alleviate conditions like fevers, ulcer pain, stomach viruses, and diarrhea, providing a sense of relief.

**2. Lavender Incense**, with its soothing aroma, offers a calming experience, making it beneficial for those seeking relaxation after a hectic and stressful day.

**3. Sandalwood Incense**, is revered for its ability to reduce anxiety and evoke a spiritual sense within an individual, fostering a serene state of mind.

**4. Indian Cedar Incense**, is recognized for its role in aiding recovery from mood disorders and depression, contributing to emotional well-being.

**5. Amber Incense**, is associated with balancing various systems within the body, suggesting a harmonizing effect on overall well-being.

**6. Patchouli Incense**, is known to have a calming effect on the nerves, promoting their resilience and strength, making it a choice for those seeking emotional stability.

#### 4.2. Dhoopbatti

Dhoopbatti gets its name from the Dhoop tree, native to eastern India, whose chips emit a delightful fragrance when burned. Dhoop, distinct from incense sticks or Agarbatti, not only differs in name but also in physical appearance. Unlike incense sticks, Dhoop is not dry and stick-like; instead, it exists in a paste form, slightly moist. This unique characteristic adds a touch of distinction to the aromatic traditions, offering a different sensory experience. Dhoopbatti is often used in religious ceremonies, meditation, or simply to create a pleasant atmosphere. The combination of these ingredients can vary, allowing for a wide range of scents and purposes.<sup>[57]</sup>

##### 4.2.1. Different types of Dhoopbatti<sup>57</sup>

**1. Charcoal Type:** In crafting this kind, an unscented stick is immersed in a blend of essential perfumes and oils. Charcoal is added to serve as a burning fuel for the Dhoop, while black resins are employed to bind the mixture to the stick, imparting binding properties.

**2. Masala Dhoop:** Various aromatic ingredients are combined to form a Dhoopbatti product. This blend is transformed into a sticky paste using water or

other adhesives. Natural elements like sandalwood, rubber resins, essential oils, root extracts, and various medicinal plant parts are incorporated in the preparation of masala Dhoop, offering a diverse and fragrant composition.

**3. Sandalwood Dhoopbatti:** This variant often incorporates the soothing and grounding scent of sandalwood. Sandalwood is known for its calming properties, making this type of incense suitable for meditation and relaxation practices.

**4. Herbal Dhoopbatti:** Crafted with a mix of herbs like sage, thyme, or basil, herbal incense is chosen not only for its aromatic qualities but also for the spiritual and purifying properties associated with these herbs.

**5. Spicy Dhoopbatti:** The inclusion of spices like cinnamon, clove, or cardamom in this type provides a warm and invigorating fragrance. Spicy incense is often used to create a comfortable and uplifting atmosphere.

**6. Patchouli Dhoopbatti:** This type incorporates patchouli, known for its earthy and musky fragrance. Patchouli incense is associated with grounding and relaxation, making it popular in practices that emphasize inner balance.

**7. Loban Dhoopbatti:** Featuring the resin Loban, also known as Gum Benzoin, this incense has a sweet and vanilla-like scent. Loban is often used in meditation and is believed to have calming effects on the mind.

**8. Ayurvedic Dhoopbatti:** Infused with herbs traditionally associated with Ayurveda, this type of incense is believed to have therapeutic properties. It aims to create a harmonious balance between the mind, body, and spirit.

#### 5. Herbs used in incense preparation

A previously conducted study revealed the mosquito-repellent effectiveness of essential oils extracted from various leaves, including Cymbopogon Nardus (Citronella), Cymbopogon citrates (Lemongrass), Ocimum Basilicum (Sweet Basil), Ocimum sanctum (Tulsi), Ocimum Americanum (Hairy Basil), Eucalyptus citriodora (Eucalyptus), Eucalyptus globulus (Eucalyptus), Curcuma longa (Turmeric) rhizomes, Citrus sinensis (Sweet Orange) peels, Citrus Limonium (Lemon) peels, SyzgiumAromaticum (Clove) buds, and Pinus Roxburghii resins.

Furthermore, the study highlighted that extracts from Azadirachta Indica (Neem) seeds not only possess mosquito-repellent properties but also contribute to purifying the atmosphere. This extensive exploration of natural sources showcases

their dual role in providing protection against mosquitoes and enhancing environmental cleanliness.<sup>[58]</sup>

## 6. Plant Profile

### Plant Profile 1: - Tulsi

**Synonyms:-** Scared Basil, Holy Basil

**Family:-**Lamiaceae

**Biological Source:** - Tulsi consist of and dried leaves of *Ocimum sanctum* linn.

**Chemical Constituent:** - It contains approximately 70% Eugenol, Methyl Eugenol, Carvacrol (3%) And Eugenol-Methyl-Ether (20%)

**Uses:** - Oil is often used for its Antibacterial properties, while it can also serve as an effective insecticidal agent when applied appropriately.

**Medicinal Uses:** - Coughing, Sneezing, Relaxation of stress and respiratory health, etc.



Fig.1: *Ocimum sanctum* (Tulsi) <sup>[59]</sup>

### Plant Profile 2: - Neem

**Synonyms:** - Margosa

**Family :-**Meliaceae

**Biological Source:** - It consists of all aerial parts of plants known as *Azadirachta Indica*.

**Chemical Constituent:** -Nimbin, Nimocinol, Quercetin, Nimbinene

**Uses:** - Which have Mosquito Repellent, Insecticide, Antifeedant, Nematicide and Antimicrobial.

**Medicinal Uses:** -Antibacterial, Antimicrobial, Kill Insecticides, etc.



Fig. 2: *Azadirachta Indica* (Neem) <sup>[59]</sup>

### Plant Profile3: -Nilgiri

**Synonyms:** - Eucalyptus, Dinkum oil

**Family:** -Myrtaceae

**Biological Source:** - Eucalyptus oil is the volatile oil is obtained by the distillation of the fresh leaves of *Eucalyptus Globules* and Other Species *Eucalyptus*

**Chemical Constituent:** - Eucalyptus oil chiefly contain cineole, also known as Eucalyptol (about 80%). It also contains pinene, camphene and traces of Phellandrene, Citronellal, Geranyl acetate

**Uses:-** Eucalyptus oil is used as antiseptic, expectorants and antibacterial properties.



Fig. 3: *Eucalyptus globules* (*Eucalyptus* leaf)<sup>[59]</sup>

### Plant Profile4: - Clove

**Synonyms:** -Carophyllum, Clove Flower, Clove buds

**Family:** -Myrtaceae

**Biological Source:** - Clove consist of dried flower buds of *SyzygiumAromaticum*

**Chemical Constituent:** - Clove contains about 15 to 20% of volatile oil; 10 to 13% of tannin (Gallotannicacid), Resin, Chromone and Eugenol

**Uses:** - Clove oil is biological activities such as antibacterial, antifungal, insecticidal and antioxidant properties. It is used for flavoring agent.



Fig. 4: *SyzygiumAromaticum* (Clove)<sup>[59]</sup>

**Plant Profile 5: - Mentha**

**Synonyms:** - Oleum Mentha piperita, Mentha oil

**Family:** -Lamiaceae

**Biological Source:** - The oil is obtained by steam distillation of the fresh flowering tops of the plants know as *Mentha piperita* Linn.

**Chemical Constituent:** - Peppermint oil contains chiefly 1-menthol to the extent of 70% in free, as well as, in the form of esters, peel oil is natural insect repellent.

depending upon variety (like American, Japanese, Indian).

**Uses:** - Peppermint has significant antimicrobial and antiviral.



Fig 5: *Mentha Piperita* (peppermint lead)<sup>[59]</sup>

**Plant Profile 6: - Orange**

**Synonyms:** - Orange Cortex

**Family:** -Rosaceae

**Biological Source:** - Orange peel is dried or fresh outer part of the pericarp of the ripe or nearly ripe fruits of *Citrus aurantium* Linn.

**Chemical Constituent:** - Bitter orange peel contain about 2.5% of volatile oil, it also contain several other compounds like hesperidin, iso-hesperidin, neo hesperidin, vitamin C and pectin.

**Uses:** -Orange peel is used as stomachic, aromatic, and carminative. Orange



Fig. 6: *Citrus aurantium* (Bitter Orange peel)<sup>[59]</sup>

## 7. Ingredients:-

**Table: - The details of the ingredients**

Sr No	Ingredients	Plants Part Used	Scientific Names	Amount
1	Dhoop	Resin	Boswellia Serrata [20]	10 gm
2	Cow Ghee (Clarified Butter)	---	---	2 gm
3	Cow Dung	---	---	1 Part
4	Kashmir Camphor	Cinnamomum camphor, Kashmirlobhan	---	10 gm
5	Kapurkachri	Hedychium Spicatum	Rhizome	10 gm
6	Cow Milk	---	---	10 ml

## 8. Material and Method

### 8.1. Material

Materials are the Local plant powders were meticulously selected and screened for quality before being utilized in the preparation. Dried cow dung, sourced from a Pune district dairy milk supplier, underwent pulverization in a domestic grinder and subsequent sieving for a fine powder. The procurement of cow's milk and ghee from the local market ensured the quality of these ingredients. A consistent proportion of all components was maintained throughout the preparation.

### 8.2. Method

Finely soften the herb dust and cow in a clean, dry mortar and pestle. Cow's milk, boiled and enriched with clarified butter, underwent further digestion on a hot plate. This enriched mixture was carefully incorporated into the powder blend and finely macerated to achieve a smooth paste. To create Dhoop sticks, a plastic syringe was precisely cut from the apical side, fully opening the syringe's mouth. Using this, along with a plunger, Dhoop sticks were crafted and subsequently dried for four days in an oven set at 40°C. The dried sticks were then securely stored in an airtight container. Following a month of storage, these sticks were employed for the evaluation of their cleansing activity.

## 9. Method of Preparation of Incense

### 9.1. Cow dung

In this kind of arrangement of incense with the assistance of mortar and pestle, the plant items such as Lemon Grass Oil (*Cymbopogon flexuosus*), Tulsi (*Ocimum sanctum*), Neem (*Azadirachta indica*) beside Maida, saw tidy, Loban (*Styrax benzoin*), Rui (*Calotropis gigantea*), Durva grass (*Cynodondactylon*), Ashoka (*Saracaasoca*), etc.), were smashed with refined water and after that it is blended with new cow dung. As per distribution it has been said that proportion of bovine compost and plant glue ought to be within the ratio of 1:1. After that the blend is made into incense adhere or cards or coils as per require and after that the ultimate item can be dried beneath sun or in stove at 70 degrees Celsius. [60]

### 9.2. Essential oil

For arrangement, firstly sandalwood, charcoal powder, or white powder, which are base materials are blended with water. At that point to this blend ghee is included and a damp mass is gotten and distinctive unstable oils such as neem oil, lavender oil or eucalyptus oils are included to damp mass after jumping the damp mass into three rises to parts. The scent fabric or aroma is included. At that point by the assistance of form strategy incense sticks are arranged. In shape strategy the damp mass is put into a plastic form of cone shape. After that mold is kept because it is for a few periods and after that shape is opened. After that cone molded incense adhere is gotten which is kept for 2 days beneath sun for drying. [61]

## 10. Microbial Evaluation of Cleansing Activity of the Dhooop

### 10.1. Antibacterial

Neem and its components play a role in inhibiting the growth of various diseases such as bacteria, viruses, and fungi. The role of neem in inhibiting microbial growth is explained separately below.

10.1. Antibacterial activity. A study was conducted to evaluate the antibacterial properties of modified plants as endodontic irritants and when compared with the standard irritant sodium hypochlorite, the results confirmed that the leaf extract and fruit extract showed zones of inhibition indicating that they have antibacterial properties<sup>[62]</sup>. In addition, the inhibitory zone of the leaf extract was larger than that of 3% sodium hypochlorite.<sup>[62]</sup> Guava and neem extract were analyzed for their antibacterial properties against 21 foodborne pathogens. The results showed that guava and neem extract have antibiotics and may help control foodborne diseases and degrading microorganisms<sup>[63]</sup>. Another experiment was conducted to evaluate the antibacterial activity of the bark, leaves, seeds, and fruit extracts of *Azadirachta indica* (*Azadirachta indica*) against bacteria isolated from the oral cavity of adults, and the results showed that the bark and leaf extract exhibited antibacterial properties. Activity against all viruses tested was used<sup>[64]</sup>. Moreover, seeds and fruit extracts show antimicrobial activity only at higher concentrations<sup>[64]</sup>.

10.2. Antiviral activity. Results showed that neem bark (NBE) extract blocked HSV-1 entry into cells at concentrations of 50 to 100 g/mL<sup>[64]</sup>. Additionally, when extracts were pre-incubated with bacteria in place of the target, blocking activity of NBE was noted, indicating that neem bark has a direct anti-HSV-1 potency<sup>[65]</sup>. > Neem leaf extract (*Azadirachta indica* A. Juss.) (NCL-11) has virucidal activity against Coxsackievirus Virus B-4, as demonstrated by efficiency reduction evaluation of viral inactivation and associated early events. has. BT. replication cycle<sup>[66]</sup>.

10.3. Antifungal activity. Experiments were conducted to evaluate the effectiveness of various extracts of neem leaves against the seed-borne fungi *Aspergillus* and *Rhizopus* and the results confirmed that the growth of both the same fungi was affected and controlled by alcohol and water extract. Additionally, alcoholic extract of neem leaves is best in delaying the growth of both fungi compared to aqueous extract<sup>[67]</sup>. Other findings show that Neem cake aqueous extract exerts an antimicrobial effect in

inhibiting spore germination of three types of spore fungi such as neem cakelunata, *H. Pennisetum* and *C. gloeosporioides* sp. *Mango*<sup>[68]</sup> and research results have shown that neem methanol and ethanol extracts have growth inhibitory effects on *Kojima flavus*, *Xanthomonas solani* and *Cladosporium*<sup>[69]</sup>. Some of the various aqueous extracts of neem, such as neem oil and its main components, have antifungal activity and were reported by early researchers<sup>[70-72]</sup>. This study examines the antibacterial properties of neem against *Alternaria solani* Sorauer and results confirmed that the ethyl acetate moiety is effective in significant growth of fungal diseases. The most effective MIC is 0.19 mg. This drug is also more effective than the antibiotic (metalaxyl + mancozeb) because the MIC of this antibiotic is 0.78 mg<sup>[73]</sup>.

10.4. Antimalarial activity. Experiments were conducted using albino mice infected with *Plasmodium berghei* to evaluate the anti-inflammatory properties of anti-viral drugs, and the results showed that extracts of leaves and stem bark were able to infect mice. About 51–80% and 56–87% respectively,<sup>[74]</sup> and other studies have shown that azadirachtin and other limonoids in neem extract are used to actively inhibit malaria vectors<sup>[75-77]</sup>. Crude acetone/water (50/50) for testing against asexual and sexual forms of malaria. Other findings based on leaf extract (IRAB) Parasite, *Plasmodium falciparum*, in vitro tests show: In isolation 72-hour cultures of asexual parasites and mature gametocytes treated with IRAB (0.5 µg/mL), number of parasites in the culture less than 50% Control cultures, 8.0% and 8.5% parasitemia, respectively<sup>[78]</sup>.

### 10.2. Antimicrobial

The increased prevalence of antibiotics in bacterial infections has led to the need for new treatments; Therefore, most of the recent studies on the antimicrobial properties of neem have focused on the antimicrobial properties of the plant. This field research is supported using neem in dental care areas well as the successful application of neem in the food industry. Along with patterns of antibiotic resistance, the ability of pathogenic bacteria to form biofilms has also emerged. has sparked interest in explaining how communities can become resistant to antibiotics. Although the impact of biofilm on human diseases is widely known, very few new solutions have been developed to date to effectively eliminate biofilms. But supporting data shows that neem is better at inhibiting bacterial growth and cells that form



biofilms than many other herbal extracts. Therefore, it is necessary to make room for drug research (Noor, 2011). For a more detailed list of the medicinal properties of the neem tree, see the section below.

### 11. Characterization

Evaluation of the properties of perfume powder according to conductivity. pH is decided by utilize of pH meter. FTIR of incense sticks are done by planning KBr pellet method and after that the investigation done by Perkin-Elmer, range 6500 with determination of 2cm<sup>-1</sup>. FTIR make a difference in determining the useful gather show within the incense show within the incense adhere powder. XRD examination is performed for the distinguishing proof of the distinctive stages display within the incense adhere powder. XRD examination confirms whether there's undefined stage and crystalline stage in incense adhere powder. XRD design can be recorded utilizing Philips X'PERT Professional instrument prepared instrument prepared X'celerometer within the 20 runs of 20-70 with a step estimate of 0.02 and a time of 5 seconds per step at 40 kv and a current of 30 mA.<sup>[79]</sup>

### 12. Benefits of Using Dhoop<sup>[80]</sup>

1. Dhoop confers benefits to body, intellect, and soul. Dhoop incense is known to move forward concentration that can help us whereas considering, doing contemplation and it too anticipates contaminations, clams migraines, and diminishes uneasiness and pressure.
2. Dhoop sticks due to its alleviating scents makes a difference in clamming the intellect as well as makes a quiet air around.
3. The gums and herbs utilized in planning of Dhoop sticks, are having advantages impacts on patients of asthma, bronchitis and cold.

### 13. Uses of Incense and Dhoop

#### 13.1 Antimicrobial

Dhoop is known to confer antimicrobial action. Antimicrobial are alluded to the operators which has the capacity to either murder or halt development of organism.<sup>1</sup>. Antimicrobial medications are classifying based the microorganism they act on. For case, anti-microbials are utilized against microbes and antifungals are utilized against organism. Antimicrobials are too classified concurring to their work. Specialists able of slaughtering the micro-

organism are named as microbicidal, and others who halt their development are known as biostatic. As incenses are arranged from numerous herbs that have microbial property, so it gives anti-microbial action.<sup>[81]</sup>

### 13.2. Mosquito Repellent

Mosquitoes are one the major vectors of numerous dangerous illnesses. A mosquito sucks the blood from human creatures and in turn causes malady in them. A few mosquito species having a place to genera Anopheles, Culex and Aedes are vectors for the pathogens of different infections like Dengue fever, Jungle fever, yellow fever, and a few other diseases. Dhoop with mosquito repellent property can help in acting on this vector and confer calm to human creatures.<sup>[82]</sup>

### 14. Limitation of Dhoop

In spite of the fact that Dhoop appearance numerous points of interest through there is a drawback related with it is that in few people it unfavorably susceptible conditions like dermatitis as Dhoop or incense improves the hazard figure for height of IgE in blood. In any case to have clear picture further study has got to be conducted. In the interim whereas utilizing incense or Dhoop, ventilation of the room ought to be taken into thought so that the undesirable impact of the incense or Dhoop can be beneath control.<sup>[83]</sup>

## CONCLUSION

As discuss borne maladies are very predominant presently a day so there isan ought to have discuss with no microbial stack to decrease the occurrence of discuss borne maladies. By Numerous chemical choices are utilized to bargain with the circumstance, but they too confer numerous side impacts. With its anti-inflammatory properties, Dhoop can be a lifesaver in presentation. In addition, in nations like India, where most of our capacities and social gathering begin with lighting a Dhoop or incense adhere, it can perform double capacities. Also, the taken a toll to get ready Dhoop is quite economical can be bear by anybody so it can be distant better a much better, better higher, a stronger, an improved, a higher alternative against the expensive chemical options. Show work tries to conclude that on the off change that a centered approach is taken towards fabricating of Dhoop by utilizing common fixing at that it can be a potential advertise in future.

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