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# A study of taxonomy and ethnopharmacological role of medicinal plants in the health care system of the tribal blocks of district Gopalganj Bihar

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**Abstract**
The tribal blocks of District Gopalganj in Bihar are home to rich biodiversity, including a diverse range of medicinal plants. For centuries, tribal communities have relied on these plants as a primary source of healthcare, treating various ailments and promoting overall well-being. This article explores the taxonomy and ethnopharmacological role of medicinal plants in the healthcare system of the tribal blocks of District Gopalganj, Bihar.

**Keywords:** Ethnopharmacological role, biodiversity, medicinal plants, healthcare system

## Introduction
The taxonomy of medicinal plants provides a systematic classification that helps in identifying, categorizing, and understanding their properties and uses. In the tribal blocks of District Gopalganj, numerous plant species have been identified and classified based on their botanical characteristics, bioactive compounds, and medicinal properties. Some of the commonly found plant families include Solanaceae, Fabaceae, Lamiaceae, Apocynaceae, and Asteraceae.

The ethnopharmacological knowledge held by tribal communities is a valuable resource for understanding the traditional uses and medicinal properties of plants. The tribal people have accumulated this knowledge through generations of experience, observation, and passing down wisdom from one generation to the next. The following are examples of medicinal plants and their ethnopharmacological roles in the healthcare system of the tribal blocks of Gopalganj District. Ethnopharmacological studies have confirmed the presence of bioactive compounds in these medicinal plants, validating their traditional uses and highlighting their therapeutic potential.

## Conservation and Future Prospects of Medical Plants and Their Knowledge Found in Gopalganj District of Bihar
The preservation and sustainable use of medicinal plants are crucial for the well-being of tribal communities and the healthcare system. The growing recognition of traditional knowledge, coupled with scientific research, can contribute to the development of evidence-based herbal medicines. Efforts should be made to conserve the habitats of these medicinal plants and promote their cultivation through community-based initiatives. Furthermore, collaboration between traditional healers, scientists, and healthcare professionals can facilitate the integration of traditional medicine into the modern healthcare system. The taxonomy and ethnopharmacological role of medicinal plants in the healthcare system of the tribal blocks of District Gopalganj, Bihar, provide valuable insights into the traditional knowledge and practices of indigenous communities. These plants have served as a cornerstone of healthcare for generations, offering a holistic approach to wellness. By recognizing the importance of these medicinal plants, promoting their conservation, and bridging the gap between traditional medicine and modern healthcare, we can harness the therapeutic potential of nature and enhance the well-being of the tribal communities in Gopalganj.

These are just a few examples of the medicinal plants found in the tribal blocks of Gopalganj district and their role in taxonomy and ethnopharmacological prospects in the healthcare system of the tribal blocks of Gopalganj district. The tribal communities in the region have a rich knowledge of traditional herbal remedies and rely on these plants for their healthcare needs.

**Neem (*Azadirachta indica*)**

Among these plants, neem (*Azadirachta indica*) holds a special place due to its taxonomy and ethnopharmacological prospects. Neem has been extensively used by the tribal communities for its diverse medicinal properties and continues to be a vital component of the healthcare system in these areas.

**Fig 1:** Neem (*Azadirachta indica*)

**Taxonomy of Neem**

Neem, scientifically known as *Azadirachta indica*, belongs to the Meliaceae family. It is an evergreen tree native to the Indian subcontinent, including Bihar. Neem is characterized by its pinnate leaves, fragrant flowers, and olive-like fruits. The tree's bark, leaves, seeds, and oil contain various bioactive compounds that contribute to its medicinal value.

Ethnopharmacological Significance:

The tribal communities in the Gopalganj district have a deep-rooted knowledge of the medicinal properties of Neem. They have passed down this wisdom through generations, integrating Neem into their healthcare practices. Neem offers a wide range of health benefits, making it an essential part of their traditional remedies. Here are some notable ethnopharmacological prospects of Neem:

1. **Antimicrobial Properties:** Neem possesses potent antimicrobial properties, making it effective against a variety of pathogens such as bacteria, fungi, and viruses. The tribal communities have traditionally used Neem to treat skin infections, wounds, and various microbial diseases.
2. **Skin Care:** Neem is widely regarded for its skin-friendly properties. The leaves and oil of Neem have been used to alleviate skin conditions such as acne, eczema, and psoriasis. Neem's antibacterial and anti-inflammatory properties help cleanse and rejuvenate the skin.
3. **Oral Health:** Neem has been utilized for maintaining oral hygiene in traditional practices. Chewing Neem twigs or using Neem-based toothpaste is believed to promote healthy gums, prevent dental caries, and freshen breath. Neem's antimicrobial activity helps combat oral pathogens.
4. **Immune System Support:** Neem is known to possess immunomodulatory effects, enhancing the body's natural defense mechanisms. Consuming Neem-based preparations or extracts is believed to strengthen the immune system and protect against various infections.
5. **Insecticidal and Mosquito Repellent Properties:** Neem extracts have been used as natural insecticides and mosquito repellents. Neem oil acts as an effective biopesticide, protecting crops from pests, while Neem-based repellents provide a natural and non-toxic alternative for warding off mosquitoes.

**Integration into the Healthcare System**

In the tribal blocks of Gopalganj district, Neem holds a crucial position in the local healthcare system. Traditional healers, known as Vaidyas or Bhumkas, utilize Neem and its various preparations to address a wide range of health conditions. The tribal communities have a deep understanding of the appropriate methods of administration and dosage for Neem-based remedies.

However, as modern medicine gains prominence, it is important to bridge the gap between traditional knowledge and contemporary healthcare practices. Research efforts should be directed towards exploring the scientific basis of Neem's medicinal properties, identifying its active compounds, and studying their mechanisms of action. Such studies can help validate the traditional uses of Neem and provide a foundation for its integration into mainstream healthcare systems.

Neem (*Azadirachta indica*) plays a significant role in the taxonomy and ethnopharmacological prospects of medicinal plants in the tribal blocks of Gopalganj district, Bihar. Its diverse range of medicinal properties makes it an invaluable resource for the local healthcare system. Neem's antimicrobial, skincare, immune-boosting, and insecticidal properties have been utilized by the tribal communities for generations. By acknowledging the traditional knowledge and conducting scientific research, Neem can find its place in the modern healthcare system, benefiting not only the tribal communities but also the larger population.

**Tulsi (*Ocimum tenuiflorum*)**

Among these valuable botanical treasures, Tulsi (*Ocimum tenuiflorum*), also known as holy basil, stands out as a prominent medicinal plant. This article explores the taxonomy and ethnopharmacological prospects of medicinal plants, with a special focus on Tulsi, and its significance in the health care system of the tribal blocks of Gopalganj.

**Fig 2:** Tulsi (*Ocimum tenuiflorum*)

**Taxonomy of Tulsi**

Tulsi belongs to the Lamiaceae family and is scientifically classified as *Ocimum tenuiflorum*. This aromatic plant is characterized by its small, green leaves, purple or white flowers, and a distinct aroma that is widely recognized. It is a perennial herbaceous plant that thrives in tropical and subtropical regions.

**Ethnopharmacological Prospects**

For centuries, Tulsi has held a revered position in traditional medicine systems like Ayurveda and folk medicine. The ethnopharmacological prospects of Tulsi are vast and have been recognized for their therapeutic properties. Here are some notable aspects of Tulsi's role in the health care system of the tribal blocks of Gopalganj, Bihar:

1. **Immunity Booster:** Tulsi is known for its immunomodulatory properties, helping to strengthen the immune system. The leaves are rich in antioxidants that combat free radicals, reducing oxidative stress and enhancing the body's defense mechanisms. Regular consumption of Tulsi is believed to improve overall health and resilience.
2. **Respiratory Health:** In the tribal communities of Gopalganj, where respiratory ailments are prevalent, Tulsi plays a vital role in promoting respiratory health. The leaves of Tulsi possess expectorant properties that help in relieving cough, cold, and congestion. It is also known to have antimicrobial and anti-inflammatory effects, making it beneficial in managing respiratory infections.
3. **Stress Relief:** Tulsi has adaptogenic properties, making it effective in combating stress and anxiety. Its leaves contain compounds that help regulate cortisol levels, reducing the impact of stress on the body. The consumption of Tulsi tea or its extracts is a popular practice in the tribal blocks, aiding relaxation and promoting mental well-being.
4. **Digestive Aid:** The tribal communities in Gopalganj have long used Tulsi as a digestive aid. It acts as a carminative and helps alleviate digestive discomfort such as bloating, indigestion, and acidity. Tulsi leaves are often chewed or brewed into herbal teas to promote digestion and relieve gastrointestinal issues.
5. **Antimicrobial and Anti-inflammatory Properties:** Tulsi possesses antimicrobial properties that inhibit the growth of bacteria, fungi, and other pathogens. It has been traditionally used to treat skin infections and wounds. Additionally, its anti-inflammatory properties make it beneficial in managing inflammatory conditions such as arthritis and certain skin disorders.

Tulsi (*Ocimum tenuiflorum*) holds great significance in the taxonomy and ethnopharmacological prospects of medicinal plants in the health care system of the tribal blocks of Gopalganj, Bihar. Its therapeutic properties, including immune-boosting, respiratory health benefits, stress relief, digestive aid, and antimicrobial effects, have been cherished by the local communities for generations. As the traditional knowledge of medicinal plants continues to be valued, it is crucial to preserve and promote the use of Tulsi and other medicinal plants in the healthcare system of these tribal blocks, integrating traditional wisdom with modern scientific research for the well-being of the local population.

**Aloe Vera (*Aloe barbadensis*)**

The tribal blocks of District Gopalganj in Bihar are home to a rich diversity of medicinal plants that have been traditionally used for centuries in the local healthcare system. Among these valuable plants, Aloe vera (*Aloe barbadensis*) stands out as a significant botanical resource with its taxonomic significance and ethnopharmacological prospects. This article explores the role of Aloe vera in the taxonomy of medicinal plants and its importance in the health care practices of the tribal communities in Gopalganj.

**Fig 3:** Aloe Vera (*Aloe barbadensis*)

**Taxonomic Significance**

Aloe vera, belonging to the family Asphodelaceae, is a succulent perennial plant with fleshy leaves containing a gel-like substance. Taxonomically, Aloe vera has been extensively studied and classified based on its morphological characteristics, genetic composition, and phytochemical profiles. This taxonomic understanding of Aloe vera helps in its identification, cultivation, and preservation, ensuring the availability of authentic plant material for medicinal purposes.

**Ethnopharmacological Prospects**

The tribal communities residing in the Gopalganj district have a profound knowledge of the therapeutic properties of Aloe vera. Over generations, they have harnessed the plant's healing potential and incorporated it into their healthcare practices. The gel obtained from the leaves of Aloe vera is a versatile remedy used for various ailments.

1. **Skin Disorders:** Aloe vera gel is highly regarded for its skin-nourishing properties. It possesses antibacterial, antifungal, and anti-inflammatory effects, making it beneficial in the treatment of skin disorders such as burns, wounds, eczema, and psoriasis. The gel soothes the skin, accelerates wound healing, and reduces inflammation and itching.
2. **Digestive Health:** The tribal communities of Gopalganj utilize Aloe vera to promote digestive well-being. The gel acts as a natural laxative, aiding in constipation relief and maintaining bowel regularity. Additionally, it is believed to possess gastroprotective properties, soothing gastrointestinal discomfort and supporting digestive health.
3. **Immune System Support:** Aloe vera exhibits immunomodulatory properties, helping to strengthen the body's immune system. It contains polysaccharides and antioxidants that enhance the immune response, promoting resistance against infections and diseases. The plant's immune-boosting potential is particularly valuable in the tribal healthcare system, where preventive approaches play a crucial role.
4. **Overall Well-being:** Aloe vera is often considered a "plant of immortality" due to its various health-enhancing properties. Its consumption is believed to improve vitality, promote detoxification, and provide a general sense of well-being. The plant's adaptogenic

properties help the body adapt to stress and maintain physiological balance.

**Preservation and Conservation**

Given the ethnopharmacological importance of Aloe vera and other medicinal plants in the tribal blocks of Gopalganj, efforts must be made to conserve and sustainably manage these resources. Conservation initiatives should focus on raising awareness among the local communities about the significance of these plants, promoting cultivation practices, and implementing sustainable harvesting techniques. This ensures the availability of Aloe vera and other medicinal plants for future generations while preserving the biodiversity of the region.

Aloe vera plays a vital role in the taxonomy of medicinal plants and holds immense ethnopharmacological prospects in the healthcare system of the tribal blocks of District Gopalganj, Bihar. Its taxonomic significance aids in its identification and cultivation, while its therapeutic properties contribute to the well-being of the local communities. Integrating traditional knowledge with modern scientific research can further enhance our understanding of Aloe vera's potential and strengthen the healthcare practices in the region. Preserving and sustainably managing these medicinal plant resources is essential to continue benefiting from their healing properties while conserving the rich biodiversity of the area.

**Brahmi (*Bacopa monnieri*)**

In the traditional healthcare system of the local tribal communities, a valuable plant species found in this region, Brahmi (*Bacopa monnieri*) stands out as a significant herb with profound taxonomy and ethnopharmacological prospects. This article aims to explore the role of Brahmi in the taxonomy and ethnopharmacological aspects of medicinal plants and its significance in the healthcare system of the tribal blocks of Gopalganj, Bihar.

**Fig 4:** Brahmi (*Bacopa monnieri*)

**Taxonomy of Brahmi**

Brahmi, scientifically known as *Bacopa monnieri*, belongs to the family Plantaginaceae. It is a small, creeping herb with succulent leaves and white or light blue flowers. Its taxonomy provides valuable insights into its botanical characteristics, growth patterns, and genetic makeup, enabling researchers to understand its unique properties and potential applications in traditional medicine.

**Ethnopharmacological Prospects**

Brahmi has a long history of traditional use in Ayurvedic medicine and is highly regarded for its cognitive-enhancing properties. The plant contains active compounds called bacosides, which have been shown to possess neuroprotective, antioxidant, and anti-inflammatory effects. These properties make Brahmi a potent herb in managing various ailments and promoting overall well-being. The ethnopharmacological prospects of Brahmi include the following:

1. **Cognitive Enhancement:** Brahmi is renowned for its ability to enhance cognitive function, memory, and learning. It is believed to nourish and rejuvenate the brain, improving mental clarity and concentration. The herb is often used in Ayurvedic formulations targeting cognitive disorders, including memory loss and cognitive decline associated with aging.
2. **Stress and Anxiety Management:** Brahmi is considered an adaptogen, meaning it helps the body adapt to stress and promotes a sense of calmness. It is known to reduce anxiety, stress, and symptoms associated with depression. Brahmi's calming effects can contribute to the overall well-being of individuals living in the tribal blocks, where stress and mental health challenges may be prevalent.
3. **Neuroprotective Effects:** The neuroprotective properties of Brahmi make it an essential herb in maintaining brain health. It has been studied for its potential in preventing neurodegenerative disorders such as Alzheimer's disease and Parkinson's disease. The antioxidant and anti-inflammatory actions of Brahmi help protect brain cells from oxidative damage and inflammation.
4. **Antioxidant and Anti-inflammatory Properties:** Brahmi exhibits potent antioxidant and anti-inflammatory effects, which contribute to its therapeutic potential. These properties help combat free radicals, reduce inflammation, and protect the body against various chronic diseases, including cardiovascular disorders, arthritis, and certain cancers.

**Significance in the Healthcare System of Tribal Blocks**

In the tribal blocks of Gopalganj, where access to modern healthcare facilities may be limited, the traditional healthcare system plays a crucial role in meeting the health needs of the local communities. Medicinal plants like Brahmi are an integral part of this system, providing affordable and accessible remedies for various ailments. The knowledge passed down through generations regarding the cultivation, preparation, and usage of Brahmi contributes to the sustainability of the healthcare system and strengthens the cultural heritage of the tribal communities. Brahmi (*Bacopa monnieri*) holds immense significance in the taxonomy and ethnopharmacological prospects of medicinal plants in the healthcare system of the tribal blocks of District Gopalganj, Bihar. Its cognitive-enhancing properties, stress management capabilities, neuroprotective effects, and antioxidant and anti-inflammatory properties make it a valuable herb in traditional medicine. By recognizing the role of Brahmi and other medicinal plants, we can appreciate the rich knowledge of the tribal communities and further explore the potential of these natural remedies in promoting health and well-being in a sustainable manner.

**Ashwagandha (*Withania somnifera*)**

Among these valuable botanical resources, Ashwagandha (*Withania somnifera*) stands out as a remarkable herb with

significant contributions to both taxonomy and ethnopharmacology. With its extensive usage and therapeutic potential, Ashwagandha has become an essential component of the health care system in the tribal blocks of Gopalganj, Bihar. This article explores the multifaceted role of Ashwagandha and its contributions to the taxonomy and ethnopharmacological prospects of medicinal plants in this region's healthcare system.

**Fig 5:** Ashwagandha (*Withania somnifera*)

**Taxonomy and Identification**

Ashwagandha, scientifically known as *Withania somnifera*, is a member of the Solanaceae family. It is a small shrub with yellow flowers and bears small red fruits enclosed in orange berries. The plant's unique characteristics, such as its distinctive odor and the presence of secondary metabolites like withanolides, alkaloids, and flavonoids, aid in its taxonomic identification. Traditional knowledge and local expertise have enabled the tribal communities in Gopalganj to recognize and utilize this plant for generations.

**Ethnopharmacological Significance**

Ashwagandha has been an integral part of traditional medicine systems, including Ayurveda, for thousands of years. The local tribes in Gopalganj have utilized Ashwagandha for its numerous health benefits. It is considered an adaptogenic herb, which means it helps the body adapt to physical and mental stressors. The roots, leaves, and berries of Ashwagandha are used for various therapeutic purposes.

1. **Stress Reduction and Mental Well-being:** Ashwagandha has been traditionally used to reduce stress, anxiety, and depression. It promotes relaxation, enhances mental clarity, and improves overall well-being. It is believed to regulate cortisol levels, a hormone associated with stress response.
2. **Immune System Support:** Ashwagandha is known to have immunomodulatory properties, helping to strengthen the immune system. It enhances the body's defense mechanisms, thereby reducing the risk of infections and diseases.
3. **Energy and Vitality:** Ashwagandha is recognized as a rejuvenating herb, promoting vitality and vigor. It is believed to boost energy levels, improve stamina, and increase physical endurance.
4. **Cognitive Enhancement:** Ashwagandha is known for its nootropic effects, enhancing cognitive function, memory, and concentration. It aids in mental clarity, alertness, and learning abilities.

**Integration into the Healthcare System**

The tribal communities in the Gopalganj district have seamlessly integrated Ashwagandha into their healthcare system. Local healers, known as vaidyas or traditional medicine practitioners, have passed down the knowledge of using Ashwagandha for various ailments and wellness practices. The roots and leaves are often dried, powdered, and used in decoctions, herbal formulations, or as dietary supplements. Additionally, Ashwagandha has gained popularity in modern herbal medicine systems and is available commercially in various forms such as capsules, tablets, and extracts.

Ashwagandha (*Withania somnifera*) plays a significant role in the taxonomy and ethnopharmacological prospects of medicinal plants in the healthcare system of the tribal blocks of District Gopalganj, Bihar. Its distinct characteristics enable its taxonomic identification, while its versatile therapeutic properties contribute to its widespread use in traditional medicine practices. Ashwagandha's adaptogenic, immunomodulatory, and cognitive-enhancing effects have made it a valuable resource for promoting physical and mental well-being among the tribal communities. As we continue to explore the potential of medicinal plants, Ashwagandha stands as a testament to the rich ethnopharmacological heritage that contributes to the healthcare system of Gopalganj's tribal blocks in Bihar.

**Table 1:** The table below describes the knowledge collected by the traditional health practitioners Hakims and Vaids.

| S.N. | Botanical Name | Common Name | Part of plant used | Administration | Information Source | Target Wound |
|---|---|---|---|---|---|---|
| 1 | *Abrus precatorious* (L.) | Gunja | Seed | Crushed seeds are boiled in water and filtrate is applied the wound. | Hakim of regional area | Epidermal wounds |
| 2 | *Acalypha indica* (L.) | Khokali | Leaves and Bark | Thick paste usually made by grinding is applied to the bleeding regions. | Vaid of regional area | Wounds of hands |
| 3 | *Achyranthus aspera* (L.) | Apamarga | Whole Plant | Extracts usually made by keeping it in oil for two to three days. | Hakim of regional area | Wounds which spread |
| 4 | *Adathoda vasica Nees* (L.) | Vasak | Leaf | Thick paste made by mixing it with turmeric. | Hakim of regional area | Wounds of cattle |
| 5 | *Aegle marmelos* (L.) | Bel | Leaf | Leaves are generally ground and then used. | Vaid of Local regions. | Wound of face with pus expulsion |
| 6 | *Albizzia lebbeck Benth* (L.) | Shirisa | Stem | Crushed dried powders. | Hakim of regional area | Wounds of cattle. |
| 7 | *Alstonia scholaris* (L.) | Saptapama | Leaf and Stem | Thick paste is generally brought in use. | Vaid of regional area | Human skin wounds |

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| 8 | *Annona Squamous* (L.) | Sitaphal | Root, Leaf, and Seed | Fruits are generally consumed while Powder from dried leaves seeds and effectively applied on wound. | Local people, Hakims and Vaids | Human Wounds |
| 9 | *Argemone Mexicana* (L.) | Pili kateya | Root and Latex | Latex are extracted from tree, while dried roots are used. | Regional peoples and specially Vaids | Epidermal wounds |
| 10 | *Anthocephalus cadamba Miq*. (L.) | Kadam | Stem | Extracts from stem are generally used In application over wounds. | Regional peoples and Vaids | Abrasion, Avulsion |
| 11 | *Azadiracta indica* A Juss.(L.) | Neem | Leaf Oil | Used in several ways thick pastes, oils are used for several antifungal treatments. | Local people | Incisions |
| 12 | *Calendula officinalis* (L.). | Marigold | Flower | The flower is poured in oil and oil is further reduced to half of its volume. | Hakims and Vaids of regional area | Laceration and Punctures. |
| 13 | *Calotropis gigantean* (L.) | Rajarka | Latex | The latex which is taken out from tree was took for drying. | Local peoples and Vaids | Incision and punctures |
| 14 | *Calotropis procera* Ait. | Akanda | Root and stem | The dried root and stem were ground to fine powder to mount the wound. | Local people | Avulsion and Incisions |
| 15 | *Cannabis sativa* (L.) | Bhang | Leaf | Dried powder is used for varied purposes. | Local people and Hakims | Avulsion and Incision |
| 16 | *Capparis aphylla* Roth. | Karira | Root and stem | Dried leaf and root powder mounted over wounds | Hakims and Vaids of regional area | Epidermal wounds |
| 17 | *Carica papaya* | Papita | Latex | Latex were dried and mounted over wound. | Local people and Hakims | Incisions through any sharp edges work |
| 18 | *Carthamus tinctorius* (L.) | Kusum | Seed | Seeds were ground and extracted in oil. | Hakims and Vaids of regional area | Avulsions |
| 29 | *Cayratia trifolia* (L.) | Grape | Root | Roots are dried and extracted in oil. | Local people, Vaids and Hakims | Laceration, Incision |
| 20 | *Centella asiatica* (L.) | Mandukpar ni | Whole plant and Seed | Stem, leaf and root are dried extracted by oil. | Local people, Vaids and Hakims | Avulsion and Incision |
| 21 | *Chenopodium album* (L.) | Pigweed | Leaf | The leaf is mounted on wounds. | Hakims and Vaids of regional area | Epidermal wounds |
| 22 | *Clerodendron serratum Sprengn* (L.) | Bharangi | Root and Leaf. | Root and leaves are air dried and ground to fine thereafter used for wound healing. | Local people and Hakims | Lacerations |
| 23 | *Clitoria ternatea* (L.) | Aparajita | Root, Leaf and Seed | The plant is boiled with water and the decoction is used to wash the wound. | Local people, Vaids and Hakims | Incisions |
| 24 | *Coccinia grandis* (L.) | Kundari | Whole plant. | Boil the plants together with water. The decoction is then taken to treat wounds that refuse to heal. Treatment of ulcers Wash it only put water and be drinking it. | Local people, Vaids and Hakims | Lacerations |
| 25 | *Coriandrum sativum* (L.) | Dhaniya | Fruit. | Boil the plants together with water. The decoction is then taken to treat wounds that refuse to heal. | Local people, Vaids and Hakims | Incisions |
| 26 | *Datura fastuosa* (L.) | Dhatura | Leaf | Cooked with other herbs and used to treat internal wounds | Hakims and Vaids of regional area | Abracion |
| 27 | *Echinops echinatus* (L.) | Utakanta | Root | Used in several ways thick pastes, oils are used for several antifungal treatments. | Local people, Vaids and Hakims | Cattle wounds |
| 28 | *Emblica officinalis* Geartn | Amla | Fruit and Leaf. | The juice is used. The juice is applied on fresh wounds. | Local people, Vaids and Hakims | Animal wounds |
| 29 | *Euphorbia hirta* (L.) | Dhudhi | Root | Squeezed with the juice of the leaves of botuje (Jatropha curcas) soaked in water. It is used in the treatment of internal ulcers. Treatment of ulcers Boil with water and drink preferably together with | Local people, Vaids and Hakims | Animal wounds |

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| | | | | other herbs. | | |
| 30 | *Euphorbia neriifolia* (L.) | Snuhi | Aquous extract of Latex | Treatment of wounds Wash the plant part and boil with water. The juice gotten is used to bath the affected part. | Hakims and Vaids of regional area | Animal wounds |
| 31 | *Euphorbia thymifolia* R.Br. | Dugdhika | Whole plant. | Squeezed then the juice is used in addition to other herbs. It is used in the treatment of internal ulcers. | Local people, Vaids and Hakims | Epidermal Human wounds |
| 32 | *Evolvulus alsonoides* (L.) | Shankpushp i | Fruit | Treatment of wounds Wash the plant part and boil with water. The juice gotten is used to bath the affected part. | Local people, Vaids and Hakims | Epidermal animal wounds |
| 33 | *Ficus benghalensis* (L.) | Bargad | Stem | Treatment of wounds Wash the plant part and boil with water. The juice gotten is used to bath the affected part. | Hakims and Vaids of regional area | Wounds of cattle |
| 34 | *Ficus glomerata* Roxb. | Gular | Whole plant and Root | Boil the plants together with water. The decoction is Then taken to treat wounds that refuse to heal. | Local people, Vaids and Hakims | Wounds of cattle |
| 35 | *Ficus hispida* Linn. F. | Kakodambara | Stem | Used in several ways thick pastes, oils are used for several antifungal treatments. | Local people, Vaids and Hakims | Animal wounds |
| 36 | *Ficus lacor Buch*. Ham. | Plaksha | Stem | Root and leaves are air dried and ground to fine thereafter used for wound healing. | Local people, Vaids and Hakims | Human wounds |
| 37 | *Ficus religiosa* (L.) | Peepal | Stem, Leaf and Shoot | Boil the plants together with water. The decoction is then taken to treat wounds that refuse to heal. | Hakims and Vaids of regional area | Human wounds |
| 38 | *Gmelina arborea* Roxb. | Gamhar | Root and Leaf | Squeezed then the juice is used in addition to other herbs. It is used in the treatment of internal ulcers. | Local people, Vaids and Hakims | Animal wounds |
| 39 | *Gymnema sylvstre* R.Br. | | Leaf | Leaves were ground and extracted in oil. | Local people, Vaids and Hakims | Animal wounds |
| 40 | *Heliotropium indicum* (L.). | Hatisura | Leaf | Boil the plants together with water. The decoction is then taken to treat wounds that refuse to heal. | Local people, Vaids and Hakims | Human wounds |
| 41 | *Hemidesmus indicus* R.Br. | Anantamul | Root | Root and leaves are air dried and ground to fine thereafter used for wound healing. | Hakims and Vaids of regional area | Human wounds |
| 42 | *Ipomoea paniculata* R.Br. | Kushmanda | Root | Squeezed then the juice is used in addition to other herbs. It is used in the treatment of internal ulcers. | Local people, Vaids and Hakims | Human wounds |
| 43 | *Jasminum grandiflorum* (L.) | Chameli | Whole plant | Seeds were ground and extracted in oil. | Local people, Vaids and Hakims | Human wounds |
| 44 | *Jatropha curcas* (L.) | Psycic nut | Leaf | Boil the plants together with water. The decoction is then taken to treat wounds that refuse to heal. | Hakims and Vaids of regional area | Animal wounds |
| 45 | *Jatropha gossypifolia* (L.) | Ratnajot | Root, Stem, Leaf and Seed | Seeds were ground and extracted in oil. | Local people, Vaids and Hakims | Animal wounds |
| 46 | *Lagenaria vulgaris* Seringe | Bottle gourd | Seed | Used in several ways thick pastes, oils are used for several antifungal treatments. | Local people, Vaids and Hakims | Animal wounds |

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