



Daffodil International University
Department of Pharmacy

**Ethnopharmacological survey on traditional medicinal plants at
Karatipara,
Jhenaidah, Bangladesh**

A dissertation submitted to the Department of Pharmacy, moderately fulfills
the requirements of the Bachelor of Pharmacy (B.Pharm) degree.

Submitted By:

Tropa Mozumder

ID No: 191-29-241

Batch: 21st

Department of Pharmacy

Submitted To:

Department of Pharmacy

Faculty of Allied Health Sciences

Daffodil International University

Date of Submission:

APPROVAL

This project entitled “ Ethnopharmacological survey on traditional medicinal plants at Karatipara, Jhenaidah, Bangladesh”, submitted to the Department of pharmacy of Daffodil International University in partial fulfillment of the requirements of Bachelor of Pharmacy Degree has been accepted as satisfactory and it’s contents has been authorized.

Board of Examiners

Professor Dr. Muniruddin Ahamed

Professor and Head

Faculty of Allied Health Sciences

Department of Pharmacy

External Examiner I

External Examiner II

CERTIFICATION

I certify that this project was done under my supervision as an Associate Professor of Department of Pharmacy, Faculty of Allied Health Sciences of Daffodil International University and meets the requirements of the Bachelor of Pharmacy (B. Pharm) Degree. I further certify that the implementation of this project is unique and have never been submitted to any degree program at this university.

Project Supervisor



Farhana Israt Jahan

Associate Professor

Department of Pharmacy

Faculty of Allied Health Sciences

DECLARATION

I, hereby declare that I have done this project under the supervision of Farhana Israt Jahan, Associate Professor, Department of Pharmacy , Faculty of Allied Health Sciences, Daffodil International University and reasonably meets the requirements of the Bachelor of Pharmacy (B. Pharm) Degree. I further declare that this project is wholly my creation and have never been submitted to any degree program at this university.

Prepared By



Tropa Mozumder

ID: 191-29-241

Department of Pharmacy

Daffodil International University

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Author

Tropa Mozumder

DEDICATION

Dedicated to my parents and respected supervisor for their incessant support to complete my research

Abstract:

This ethnopharmacological survey aimed to document and analyze the traditional medicinal plants used by Kavirajes, traditional healers, in Karatipara Village, Jhenaidah District, Bangladesh. The survey involved interviews and discussions with knowledgeable individuals to gather information on the local names, parts used, preparation methods, and therapeutic applications of medicinal plants. Traditional healers have extensive knowledge of local flora and can identify various medicinal plants based on their morphological characteristics, growth habits, and ecological factors. They possess the ability to differentiate between similar-looking plants and accurately identify the ones suitable for specific health conditions. A total of 32 medicinal plants from 27 families were identified, which were employed for treating various ailments, including gastrointestinal disorders, respiratory problems, skin diseases, fever, and musculoskeletal conditions. The survey findings highlight the importance of traditional knowledge and the potential of these plants for further investigation and development of new drugs. Conservation efforts and awareness initiatives are necessary to ensure sustainable utilization of these valuable medicinal resources.

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Chapter 1: Introduction

1.1 Introduction:

Medicinal plants have played vital roles in health care for both preventing and curing disease of human beings from ancient times. Though nowadays allopathic medicines are available all over Bangladesh as well as the World, traditional medicines are also being used in specific areas. Traditional medicines which are also known as ethnic medicine plays vital roles in many countries even in 21st century. Traditional healers (Kavirajes) derive these medicinal plants from nature and have been conducting there clinical trials from ancient times. Traditional medicines are rooted in indigenous knowledge systems and unfortunately are also limited. These cognitive systems are embedded in the local community lifestyles.

Around 70% of the population of the modern world directly depends on traditional medicines for primary treatment and the pharmaceutical industries depend on medicinal plants indirectly for their pharmaceutical products. Approximately 18% of 150 top prescription drugs are plant based. Around 25% of modern pharmacopoeia are traditional medicinal plant based. In Asia 45% of global earnings come from traditional medicines as it accounts for over 38,660 species of medicinal plants among which 78 species are commercialized. Asian countries mainly Bangladesh, China, Nepal, Indonesia, Myanmar, Pakistan, India are main integral parts for integration and cultivation of medicinal plants.

Bangladesh is rich in naturally available medicinal plants . In early 1980s the Ayurvedic and Unani (herbal medicine companies) medicine companies used to meet around 80% of their plant needs from forests inside the country and 20% plant needs used to meet through import. But currently 80% of the plant needs is met through import and 20% of the plant needs is met from locally produced medicinal plants. There are 722 species of medicinal plants available in Bangladesh according to BARI (Bangladesh Agricultural Research Institute) and among them 255 plants are utilised by Ayurvedic and Unani medicine manufacturers. Almost every village of the 87,223 villages of Bangladesh have at least one traditional healer or Kaviraj (local name) who have been practicing and treating people with their experience and expertise in traditional medicines. A survey report has concluded that approximately 39% of rural people have knowledge about medicinal plants and 13% of rural people

are treating people with medicinal plants. Kavirajes use simple formulation to treat disease some of them can treat chronic disease and other day to day disease in children as well as aged people.

The survey is conducted in Karatipara village of Jhinaidah district. The village is under Naldanga union of Jhinaidah. It is not a well known place yet but this area is full of natural medicinal plants. Kavirajes of different villages of Jhenaidah come to karatipara to collect medicinal plants. The survey deals with works of two kavirajes involving 40 medicinal plants of different diseases. A semi structured questionnaire was used in the interviews of the kavirajes to gather precise information. There are three to four kavirajes who are in practice to treat people but two of them are available at that time for interview. Some of them didn't feel comfortable to share their remedies. But two of them were very helpful to share their names and remedies. They even were very cooperative to collect the plant sample. Dulal Chandra Biswas was one of the two kavirajes who was very cooperative to collect the samples. There were many aged men and women present at the field interview who helped to precise the information. Most of them are above 75 years old. Their knowledge was vast in medicinal plants and even if they are not well known as Kaviraj they use medicinal plants to treat their children, family members and in some cases they help their neighbour also.

Diversity of traditional plants: The diversity of traditional medicinal plants throughout the world is vast and extensive. These plants have been used for centuries by various indigenous cultures and traditional healing systems to treat a wide range of ailments. The diversity of traditional medicinal plants throughout the world is vast and extensive. These plants have been used for centuries by various indigenous cultures and traditional healing systems to treat a wide range of ailments. Here is a brief overview of the topic, but please note that this response is not exhaustive and serves as a starting point for further research.

Traditional medicinal plants vary greatly in their geographic distribution, with different plants being prominent in different regions of the world. For example:

Asia: Asian countries, such as China and India, have a rich tradition of herbal medicine. Traditional Chinese Medicine (TCM) utilizes a wide array of medicinal

plants, including ginseng (*Panax ginseng*), licorice root (*Glycyrrhiza glabra*), and astragalus (*Astragalus membranaceus*). In Ayurveda, an ancient healing system in India, plants like turmeric (*Curcuma longa*), neem (*Azadirachta indica*), and ashwagandha (*Withania somnifera*) are commonly used.

Africa: Africa is home to a diverse range of traditional medicinal plants. For instance, the bark of the cinchona tree (*Cinchona officinalis*) is used to treat malaria, while the African potato (*Hypoxis hemerocallidea*) is believed to have immune-boosting properties. Other notable plants include the hoodia cactus (*Hoodia gordonii*) and the rooibos plant (*Aspalathus linearis*).

Americas: Indigenous cultures in the Americas have a long history of using medicinal plants. For example, the leaves of the coca plant (*Erythroxylum coca*) have been traditionally used by the indigenous people of the Andes to alleviate altitude sickness and provide energy. The bark of the willow tree (*Salix* spp.) contains salicin, which inspired the development of aspirin. Other plants used include aloe vera (*Aloe barbadensis*) and the bark of the pau d'arco tree (*Tabebuia impetiginosa*).

Traditional medicinal plant use in modern medicine: Traditional medicinal plants have played a significant role in the development of modern medicine, with several plants serving as sources of bioactive compounds for the development of pharmaceutical drugs. For instance, the compound artemisinin, derived from the Chinese herb *Artemisia annua*, has revolutionized the treatment of malaria and is now a key component of artemisinin-based combination therapies (ACTs) recommended by the World Health Organization (WHO) (White, 2008). Another example is the use of the opium poppy (*Papaver somniferum*) and its derivatives, such as morphine and codeine, which are widely used as analgesics in modern medicine (Roome et al., 2018).

Traditional medicinal plants used by kavirajes in 21st century: Kavirajes, traditional healers in South Asia, continue to rely on medicinal plants in their practice in the 21st century. These healers have inherited knowledge passed down through generations and employ a range of plant-based remedies to treat various ailments. However, due to the limited availability of recent scientific studies specifically

focusing on the practices of Kavirajes, it is important to approach the topic with caution and acknowledge the traditional knowledge held by these healers.

Chapter 2: Purpose of the Study

2.1 Purpose of the Study:

- ❖ To develop a realistic approach of traditional medicines in order to contribute in modern medicinal practice.
- ❖ To investigate the nature resources of traditional medicines and their most useful techniques.
- ❖ Collection of different formulas used by traditional folklores to introduce them to modern medicine.
- ❖ To discourage superstitions of traditional treatments.
- ❖ To discourage dangerous medicinal practices.
- ❖ Raise awareness of rescuing medicinal plants before it is lost.
- ❖ Encourage researchers both nationally and internationally in determining the effectiveness of natural medicinal plants.
- ❖ Conduct phytochemical studies.
- ❖ Raise awareness of planting more medicinal plant to save them from extinction.
- ❖ To preserve traditional treatment remedies for future generations to build more stable health care system.
- ❖ Perform botanical identification.
- ❖ To record biotic variables of the area.
- ❖ Describe basis, etymology of vernacular names of plants.

Chapter 3: Literature Review

3.1 Literature Review:

Ethnopharmacological Survey of Medicinal Plants Used by Traditional Health Practitioners in Thanchi, Bandarban Hill Tracts, Bangladesh (Mohammad Fahim Kadir, et al., 2014)

The study utilized a combination of qualitative and quantitative methods to gather data from traditional health practitioners in Thanchi. The survey involved interviews, direct observations, and the collection of plant specimens. Traditional health practitioners were selected based on their reputation and experience in the community. Information regarding the local name, plant parts used, preparation methods, and therapeutic applications were recorded. The survey involved interviews, direct observations, and the collection of plant specimens. Traditional health practitioners were selected based on their reputation and experience in the community. Information regarding the local name, plant parts used, preparation methods, and therapeutic applications were recorded. A total of 84 species of medicinal plants belonging to 42 families were identified during the survey. These plants were used to treat 70 types of ailments, including digestive system disorders, respiratory system disorders. Total 53 traditional practitioners had been interviewed for this survey. The plant parts commonly used for medicinal purposes included leaves, roots, stems, and barks. Traditional preparation methods included decoctions, infusions, poultices, and topical applications. Additionally, the survey highlighted the cultural significance of traditional medicine practices in Thanchi. Several plants showed potential pharmacological activities, warranting further scientific investigations for drug development. The survey conducted in Thanchi, Bandarban Hill Tracts, Bangladesh, documented the traditional knowledge of medicinal plants used by traditional health practitioners. The findings highlight the rich biodiversity and cultural significance of traditional medicine in the region.

An Ethnobotanical Study of Medicinal Plants Used by Tribal and Native People of Madhupur Forest Area, Bangladesh.

(Md Khirul Islam, et al., 2014)

The Madhupur forest area in Bangladesh is renowned for its rich biodiversity, including a vast array of medicinal plants that have long been used by the tribal and native communities for healthcare purposes. Field surveys, interviews, and participatory observations were conducted to collect data on the local communities' traditional knowledge of medicinal plants. The study also recorded the medicinal uses, preparation methods, and modes of administration for each plant species identified. Data analysis techniques such as informant consensus factor and fidelity level were applied to determine the cultural significance and potential therapeutic value of the recorded plants. The fieldwork was conducted for 1 year. The study documented a total of 78 medicinal plant species belonging to 45 families. The most commonly used plant families were Fabaceae, Euphorbiaceae, and Asteraceae. The traditional healers and community members utilized various plant parts, including leaves, roots, stems, and bark, to treat a number of 77 major and minor ailments, such as gastrointestinal disorders, respiratory problems, and skin diseases. Some notable medicinal plants identified in the study include *Centella asiatica*, *Azadirachta indica*, and *Terminalia chebula*. The documented knowledge can serve as a valuable resource for the development of sustainable herbal medicine practices, conservation strategies, and further scientific investigations. The documentation of medicinal plant species, their therapeutic applications, and preparation methods contribute to the conservation and sustainable utilization of these valuable resources.

A Comparison of Medicinal Plant Usage by Folk Medicinal Practitioners of Two Adjoining Villages in Lalmonirhat District, Bangladesh.

(Farhana Israt Jahan, et al., 2011)

Traditional medicine, including the utilization of medicinal plants, holds significant importance in the local healthcare systems of many cultures and societies around the world. It represents a rich repository of indigenous knowledge, passed down through generations, and plays a crucial role in providing healthcare services, particularly in regions with limited access to modern medical facilities. Interviews with folk medicinal practitioners and field surveys conducted in the two adjoining villages. Name of the kavirajes who had been interviewed are Rahmatullah, Hossan in 2010. The results of the study highlight the similarities and differences in medicinal plant usage between the two villages. A total number of 85 plant species of 51 families were used by the kavirajes. There were 5 kavirajes. Various plant parts which had been used to the recipes were 40.8% of leaves, 10.8% of stems and barks, 10.0% of fruits, 5.0% of tubers, 30.3% of gum, 0.8% of whole plant, 1.7% of seeds, 8.3% of roots and 6.7% of flowers. There were vast numbers of ailments that the kavirajes were treating including some major ailments of jaundice, anemia, menstrual disorder, gonorrhoea, snake bite, chicken pox and other ailments including asthma, cough. The key findings of the study and emphasize the importance of preserving and promoting traditional medicinal practices. They propose the development of sustainable strategies for medicinal plant conservation, as well as the integration of traditional medicine into mainstream healthcare systems.

Ethnopharmacological Study of Medicinal Plants Used in the Treatment of Central Nervous System Disorders in the Sinai Peninsula, Egypt (T. A. F Eissa., et al., 2014)

The Sinai Peninsula is home to diverse ethnic groups with a long history of utilizing medicinal plants for various ailments, including CNS disorders. This region offers a unique opportunity to investigate traditional medicinal practices and bridge the gap between traditional knowledge and modern medicine. A comprehensive search was

conducted using various academic databases, including PubMed, ScienceDirect, and Google Scholar. The studies explored the traditional use of medicinal plants in the treatment of various CNS disorders, including anxiety, depression, epilepsy, Alzheimer's disease, and Parkinson's disease. Several plant species were identified as potential sources of bioactive compounds with neuroprotective and psychotropic properties. Notably, plants such as *Melissa officinalis*, *Passiflora incarnata*, and *Hypericum perforatum* were commonly used to alleviate symptoms of anxiety and depression. Total 300 species of traditional medicinal plants were used by the traditional practitioners among which 101 of them belongs to 40 families and only 5 species are endemic of the study area. Along with CNS disorders some other ailments that had been treated by the traditional practitioners, were 67.3% of gastrointestinal disorders and 42.57 % of respiratory disorders. The findings underscore the importance of preserving traditional knowledge and integrating it with modern pharmacological approaches to develop safe and effective treatments.

Ethnopharmacological Survey of Medicinal Plants Used in the Traditional Treatment of Diabetes Mellitus in North Western and South Western Algeria (Azzi Richard, et al., 2012)

Diabetes mellitus is a multifactorial disease characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The management of diabetes requires a holistic approach, and traditional medicinal practices have been instrumental in providing alternative treatments. Algeria, located in North Africa, has a rich cultural heritage with a long history of using medicinal plants for various ailments, including diabetes. Additionally, ethnobotanical surveys conducted in the North Western and South Western regions of Algeria were included to capture the local traditional knowledge. The survey was conducted between October 2009 to June

2011. A total of 30 studies and ethnobotanical surveys were included in this review, providing information on 52 medicinal plants used in the traditional treatment of diabetes mellitus in North Western and South Western Algeria. The plants belonged to various families, with the most commonly mentioned families being Asteraceae, Lamiaceae, Fabaceae, and Apiaceae. 470 diabetic patients were questioned for the survey. The parts of the plants used for medicinal purposes varied, with leaves, seeds, and roots being the most frequently employed. Phytochemical analysis of the identified plants revealed the presence of bioactive compounds such as alkaloids, flavonoids, terpenoids, and phenolic compounds. These compounds have shown antidiabetic activity through various mechanisms, including the enhancement of insulin secretion, inhibition of glucose absorption, and improved glucose utilization.

Chapter 4: Materials and Method

4.1 Materials and Method:

Area of Survey

The ethnopharmacological survey was conducted among the kavirajes (traditional healers) residing in Karatipara, Jhenaidah district of Bangladesh from January 2023 to April 2023. Jhenaidah is a district of southwestern part of Bangladesh under the Khulna division., bordering India and located a bit to the south of the Padma river. Karatipara village is mostly made up of forests . The medicinal plant information was collected with the help of a questionnaire and several interviews of two kavirajes called Kavirajes and many elderly men and women. Standard Herbarium techniques were used to collect plant specimens with flowers, fruits and specific parts . Treatment remedies, local names, Plant parts, treatment taking procedure for each plant was recorded. The voucher specimens are kept in Bangladesh National Herbarium (BNH) for further use.

4.2 Mode of Information collection:

Informed consent was taken from the kavirajes prior to collection of any data for the study. Two kavirajes were interviewed.



Name: Santi Rani

Age: 82

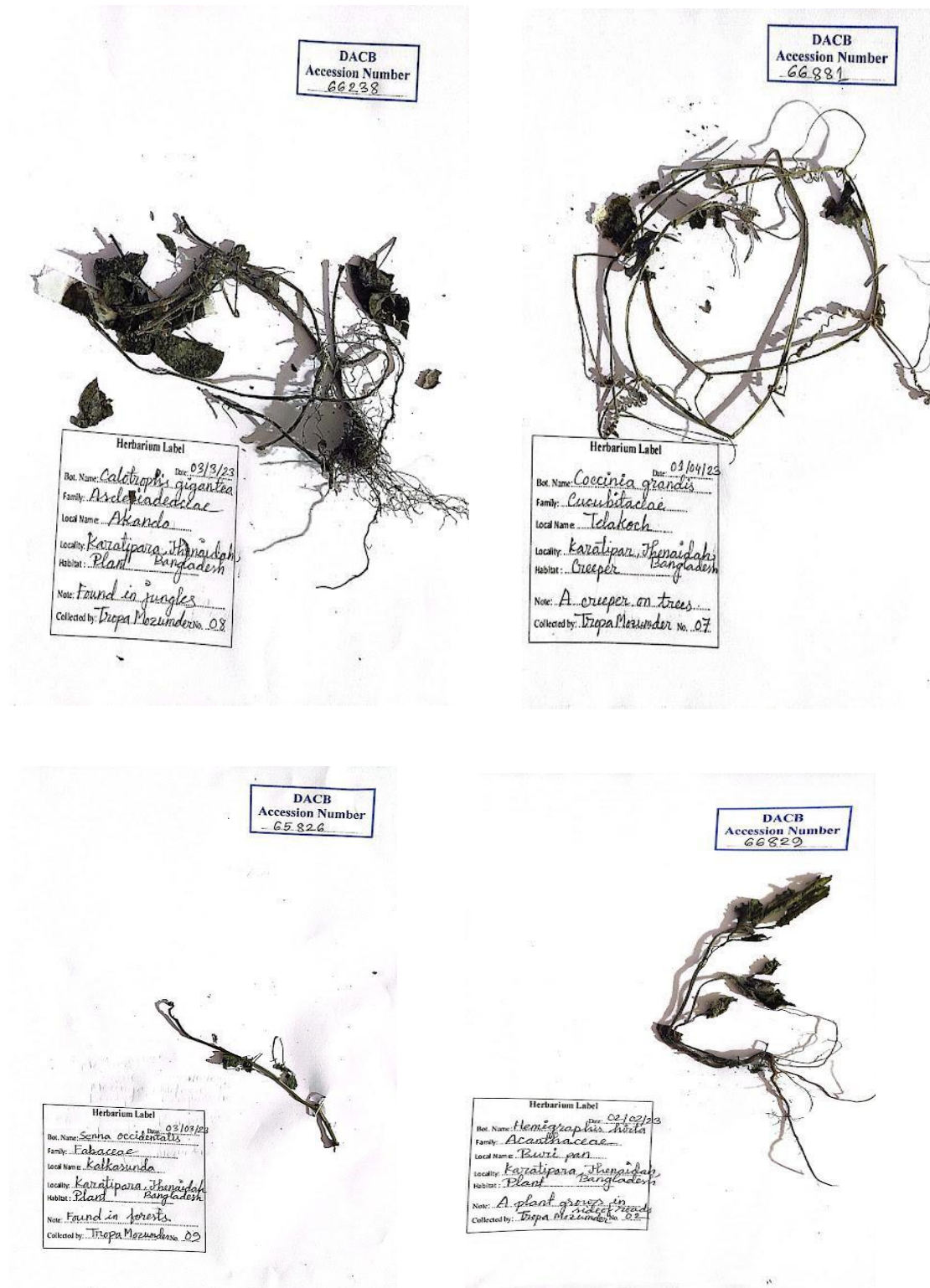


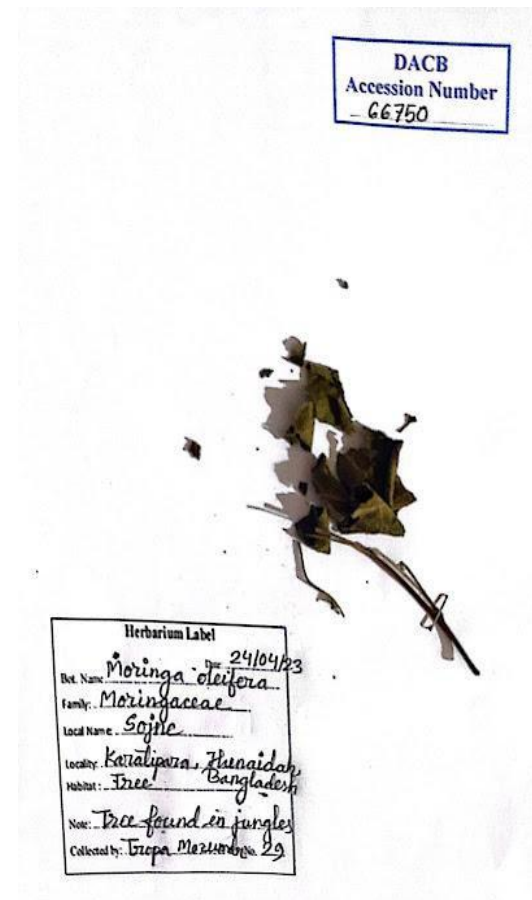
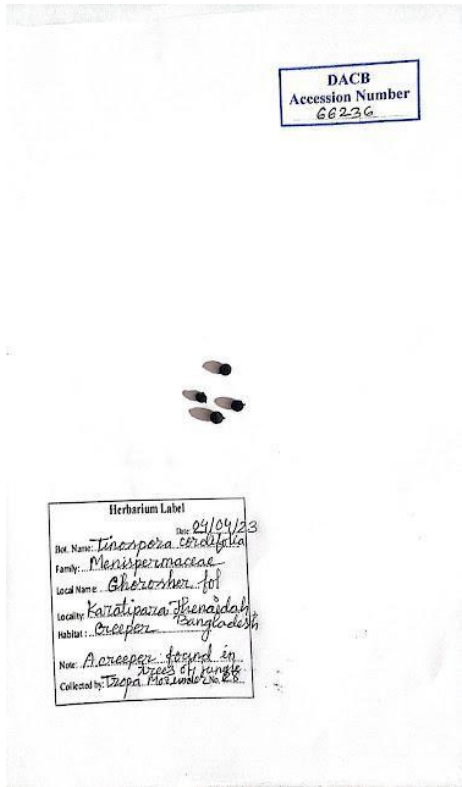
Name: Dulal Chandra Biswas

Age: 70

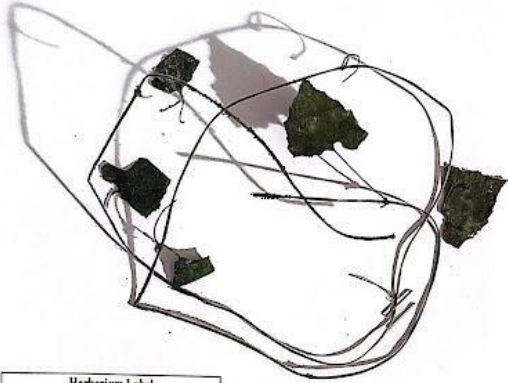
70 years old Dulal Chandra Biswas is well known for his ability of curing people and effective remedies. He has been engaged in this profession for 15 to 16 years. He is a retired school teacher. On the other hand Santi Rani, who is 82 years old is well known for treating common disease of children as well as various complex disease. She is also well known for her experties in child delivery. She has been in this profession for more than 25 years. They claim that not only people of Karatipara but also from various villages of Jhenaidah district as well as other districts come to them for better treatment. People trusts them more than any healthcare professional. They even claims that in some cases when doctors fails to cure patients they suggests to consult them. During the interview their were alsom many elderly men and women aged 75 to 85 years helped to collect plant samples from forests. The Kavirajes themselves helped to collect the plant parts, fruits and described the recipies and how people can get better results with them. The plant samples were collected both from forests and homestead gardens. The Kavirajes themselves showed how to collect plant sample without harming the source. They had no objections of publishinh the collected data on medicinal plant species and their medicinal uses.

4.3 Herbarium collection





DACB
Accession Number
66274



Herbarium Label
Date: 02/02/23
Bot. Name: *Mikania micrantha*
Family: *Asteraceae*
Local Name: *Germany Lota*
Locality: *Karatipara, Ishwardi, Bangladesh*
Habitat: *climber*
Note: *A climber on trees...*
Collected by: *Tripa Mozunder 01*

DACB
Accession Number
66883



Herbarium Label
Date: 20/04/23
Bot. Name: *Aristolochia indica*
Family: *Aristolochiaceae*
Local Name: *Tsher-mul*
Locality: *Karatipara, Ishwardi, Bangladesh*
Habitat: *Plant*
Note: *A plant found inside of ponds*
Collected by: *Tripa Mozunder no. 22*

Chapter 5: Result and Discussion

5.1 Result and Discussion:

The ethnopharmaceutical survey revealed a rich diversity of medicinal plants in Karatipara Village, indicating the significant reliance of the local community on traditional healing practices. The therapeutic applications of the documented plants covered a wide range of ailments, reflecting the villagers' extensive knowledge of plant-based medicine. The ailments that have been treated by the kavirajes are Joining broken bones, Dhat syndrome, Abscess, Abdominal pain, Cough, Blood coagulation, Fire burns, Cuts, Abdominal disease, Urinary bladder stones, Skin infections (itching), Gastric problem and blood coagulation, Ringworm, Body pain, Fever, Tonsil problem, Regular menstruation, Arthritis, Snake bites, Conjunctivitis, Gastrointestinal problem, Chronic Dysentery, Worm infestation. The most frequently used plant species in the community had versatile medicinal properties, suggesting their effectiveness in treating multiple ailments. These plants could serve as potential sources of bioactive compounds for further investigation and development of new drugs. Additionally, the use of different plant parts for medicinal purposes indicated the villagers' understanding of the specific properties and active constituents present in each part of the plant. Among 32 species of medicinal plants 6% is climber, 47% is plant, ^% is herb, 6% is creeper, 6% is shrub, 3% is vine, 22% is tree. Families of the medicinal plants are Acanthaceae, Musaceae, Moraceae, Cucubitaceae, Crassulaceae, Meliaceae, Apiaceae, Aristolochiaceae, Asteraceae, Acanthaceae, Asclepiadeaceae, Lamiaceae, Aracae, Moraceae and many more. The traditional healers and village elders played a vital role in preserving the indigenous knowledge of medicinal plants. Their expertise and experience in diagnosing and treating various ailments provided valuable insights into the therapeutic applications of these plants. However, it is essential to ensure the conservation and sustainable use of these medicinal plants to prevent their depletion and promote the well-being of both the local community and the surrounding ecosystem.

Table 5.1: All medicinal plant list:

S/N	Scientific name	Local name	Family	Habitat	Part used	Local use
1.	<i>Cissus quardrangularis</i>	Harjora lota	Vitacea	Climber	Whole plant	Joining broken bones
2.	<i>Abroma augustum</i>	Ulot kombol	Malvaceae	Plant	Stem	Dhat syndrome
3.	<i>Begonia Organdy</i>	Arkandi	Begoniaceae	Plant	Leaf	Abscess
4.	Prickly chafflower	Bilai achra	Amaranthaceae	Herb	Roots	Dhat syndrome
5.	<i>Senna occidentalis</i>	Kalkasunda	Fabaceae	Plant	Roots	Abdominal pain
6.	<i>Ocimum gratissium</i>	Ram tuloshi	Lamiaceae	Plant	Leaf	Cough
7.	<i>Cynodon dactylon</i>	Durba	Gramineae	Grass	Whole plant	Amenorrhea and blood coagulation
8.	<i>Terminalia arjuna</i>	Arjun Plant	Combretaceae	Tree	Tree bark	Heart disease

9.	<i>Justicia adhatoda</i>	Basok	Acanthaceae	Plant	Leafs	Cough
10.	<i>Musa sp.</i>	kola	Musaceae	Plant	Fruit	Fire burns
11.	<i>Ficus racemosa</i>	Jog dumor	Moraceae	Tree	Fruit	Dhat syndrome
12.	<i>Coccinia grandis</i>	Telakocho	Cucubitaceae	Creepers	Leaf	Cuts
13.	<i>Kalanchoe pinnata</i>	Pathor kuchi	Crassulaceae	Plant	Leaf	Abdominal disease Urinary bladder stones
14.	<i>Azadirachta indica</i>	Neem	Meliaceae	Tree	Leaf	Skin infections (itching)
15.	<i>Centella asiatica</i>	Thankuni	Apiaceae	Plant	Leaf	Diarrhea
16.	<i>Aristolochia indica</i>	Isher mul	Aristolochiaceae	Plant	Roots	Snake bites and Vitiligo
17.	<i>Mikania micrantha</i>	Germany lota	Asteraceae	Climber	Stems	Gastric problem and blood coagulation
18.	<i>Hemigraphis hirta</i>	Buri pan	Acanthaceae	Plant	Whole plant	Ringworm and heat stroke
19.	<i>Calotropis gigantea</i>	Akondo	Asclepiadeaceae	Plant	Whole plant	Body pain

20	<i>Clerodendron viscosum</i>	Vati	Lamiaceae	Shrub	Leaf	Fever, Worm infestation
21	<i>Colocasia esculenta</i>	Bish kochu	Araceae	Herb	Fruit	Tonsil problem
22	<i>Ficus hispida</i>	Bola dumur	Moraceae	Tree	Gum	Ringworm
23	<i>Tinospora cordifolia</i>	Ghorosh	Menispermaceae	Creeper	Fruit	Dhat syndrome
24	<i>Saraca asoca</i>	Asok	Fabaceae	Tree	Bark	Regular menstruation
25	<i>Nyctanthes arbor-tristis</i>	Sheuly	Oleaceae	Plant	Leaf	Fever
26	<i>Moringa oleifera</i>	Sojne	Moringaceae	Tree	Leaf	Arthritis
27	<i>Vitex negundo</i>	Nishindi	Lamiaceae	Tree	Leaf	Snake poison
28	<i>Heliotropium indicum</i>	Hatisuro	Boraginaceae	Plant	Leaf	Conjunctivitis
29	<i>Piper longum</i>	Pepolti	Piperaceae	Vine	Leaf	Gastrointestinal problem
30	<i>Punica granatum</i>	Dalim	Lythraceae	Shrub	Young leaf	Chronic Dysentery

31 .	Citrus aurantiifolia	Kagoji lebu	Rutaceae	Plant	Fruit	Gastric disease
32 .	Syzygium cumini	Jaam	Myrtaceae	Plant	Leaf	Dysentery

5.2 Collected Medicinal Plant Photograph:



Cissus quadrangularis



Tinospora cordifolia



Mikania micrantha



Prickly chafflower



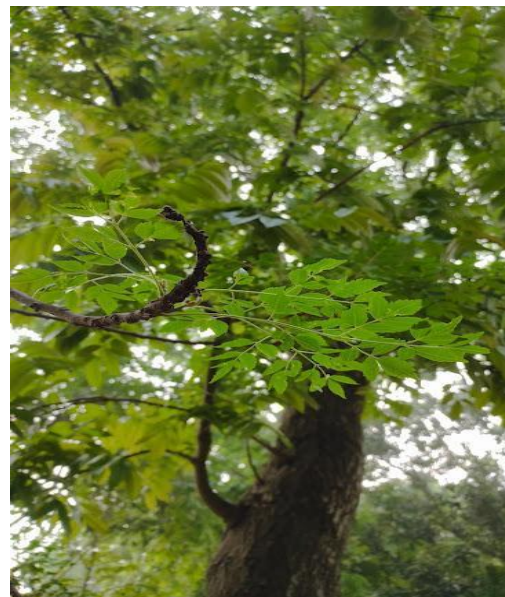
Ficus racemosa



Abroma augustum



Calotropis gigantea



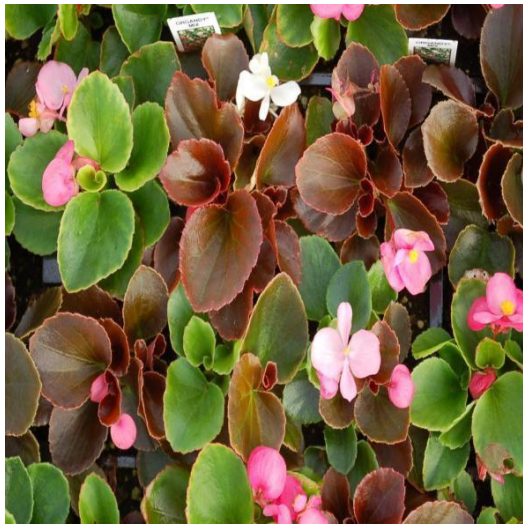
Azadirachta indica



Saraca asoca



Clerodendron viscosum



Begonia Organdy



Ocimum gratissimum



Cynodon dactylon



Senna occidentalis



Terminalia arjuna



Justicia adhatoda



Musa sp.



Hemigraphis hirta



Aristolochia indica



Ficus hispida



Kalanchoe pinnata



Coccinia grandis



Centella asiatica



Colocasia esculenta



Nyctanthes arbor-tristis



Moringa oleifera



Vitex negundo



Heliotropium indicum



Punica granatum



Piper longum



Citrus aurantiifolia



Syzygium cumini

Table 5.2 : Percentage of various plant species used for the preparation of the recipes of the medicines:

Name of Characterization	Number of Medicinal Plants	Percentage
Climber	2	6%
Creeper	2	6%
Grass	1	3%
Herb	2	6%
Shrub	2	6%
Vine	1	3%
Plant	15	47%
Tree	7	22%

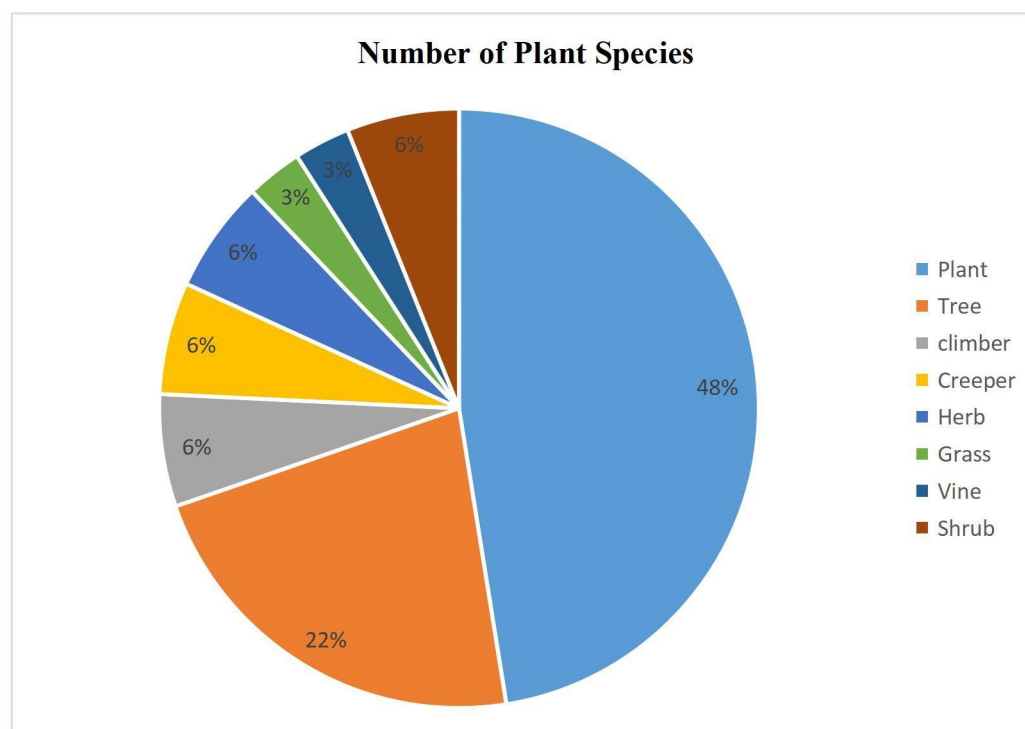


Figure: Percentage of plant species

Table 5.3: used in medicine preparation

Name of plants parts	Number of parts	Percentage
Whole plant	4	13%
Steam	2	6%
Leaf	15	47%
Roots	3	9%
Bark	2	6%
Fruit	5	15%
Gum	1	3%

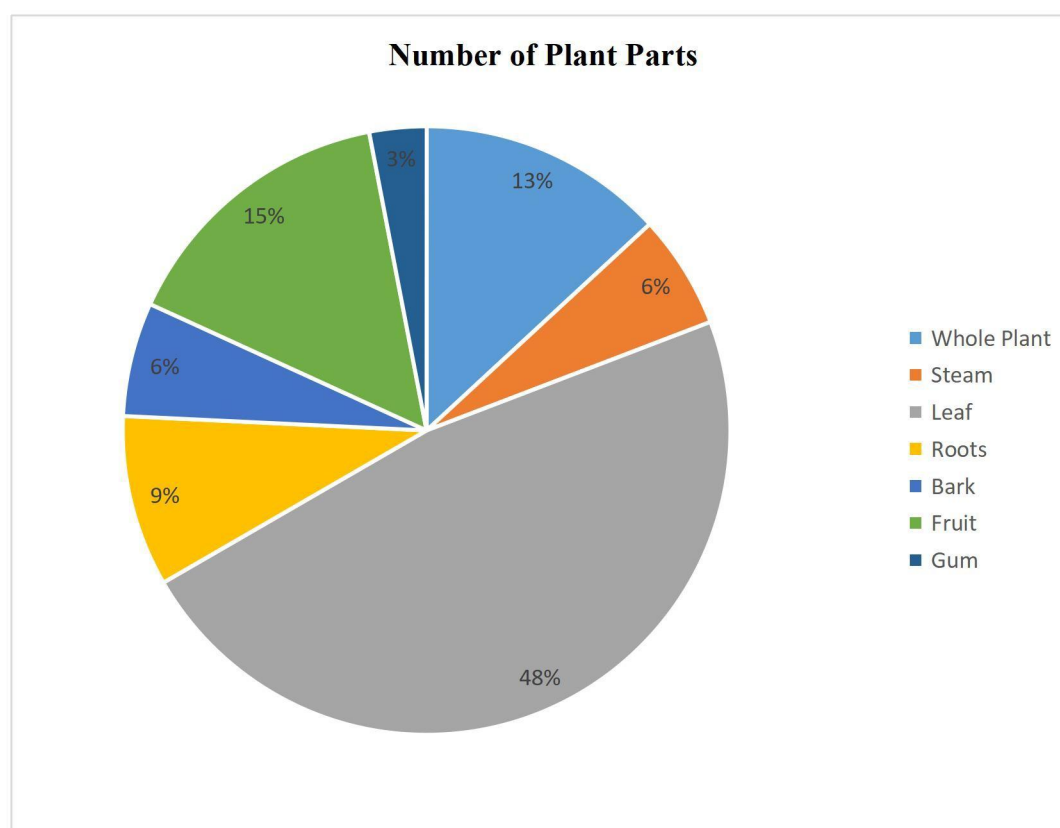


Figure: Percentage of Plant Parts



Figure: Medicinal Plant Families with their frequencies

Table 5.4: List of number of treating disease

Disease Name	Number of plant used
Joining broken bones	3
Dhat syndrome	5
Abscess	1
Abdominal pain	2
Cough	2
Blood coagulation	3
Fire burns	1
Cutsand wounds	1
Urinary bladder stones	1
Skin infections (itching)	1
Ringworm	2
Body pain	1
Fever	2
Tonsil problem	1
Regular menstruation	1
Arthritis	1
Snake bites	2
Conjunctivitis	1
Gastrointestinal problem	2
Dysentery	2
Worm infestation	1

5.3 Combination of medicinal plants and their mode of action

1. Joining broken bones

All of the three plants needs to collected freshly and needs to be cleaned properly.

Then all of them should be crushed until it forms a paste.

Now the paste should be applied on the surface of the broken bone and that part of the body should be wrapped with banana leaf. To make the bandage stay in place plastic wraps can be used.

These wrap should be in the broken bone surface for 7 to 10 days.

Table 5.5: Medicinal plants used in treatment of joining broken bones

Scientific name	Local name	Family	Habitat	Part used	Local use
Cissus quardrangularis	Harjora lota	Vitacea	Climber	Whole plant	Joining broken bones
Prickly chafflower	Bilai achra	Amaranthaceae	Herb	Roots	Dhat syndrome
Mikania micrantha	Germany lota	Asteraceae	Climber	Stems	Gastric problem and blood coagulation

2. Dhat syndrom

2.1 A sufficient amount of grass should be collected and washed .

Then the grass should be crushed and shaped like tablets and dried in sunlight.

Patient have to take these tablets for 7 days ones a day.

Table 5.6: Medicinal plants used in treatment of dhat syndrome

Scientific name	Local name	Family	Habitat	Part used	Local use
Cynodon dactylon	Durba	Gramineae	Grass	Whole plant	Dhat syndrome and blood coagulation

2.2 Stems of the plant should be soaked in water overnight.

The soaked water should be taken in the morning in an empty stomach for 10 days.

Table 5.7: Medicinal plants used in treatment of dhat syndrome

Scientific name	Local name	Family	Habitat	Part used	Local use
Abroma augustum	Ulot kombol	Malvaceae	Plant	Stem	Dhat syndrome

2.3 The fruits of the plant should fried in Ghee and eaten for 10days.

Table 5.8: Medicinal plants used in treatment of dhat syndrome

Scientific name	Local name	Family	Habitat	Part used	Local use
Fiscus racemosa	Jog dumor	Moraceae	Tree	Fruit	Dhat syndrome

2.4 Fruits needs to be soaked in water.

The water along with the fruit should be taken twice a day for 10 days.

Table 5.9: Medicinal plants used in treatment of dhat syndrome

Scientific name	Local name	Family	Habitat	Part used	Local use
Tinospora cordifolia	Ghorosh	Menispermaceae	Creeper	Fruit	Dhat syndrome

3. Abscess

Leafs should be pounded into smooth texture and applied on top of the abscess for 2 to 3 days.

Table 5.10: Medicinal plants used in treatment of abscess

Scientific name	Local name	Family	Habitat	Part used	Local use
Begonia Organdy	Arkandi	Begoniaceae	Plant	Leaf	Abscess

4. Abdominal pain

Roots of the plant along with two black peppers should be crushed.

Patients needs to take this ones a day for 2 days.

Table 5.11: Medicinal plants used in treatment of abdominal pain

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Senna occidentalis</i>	Kalkasunda	Fabaceae	Plant	Roots	Abdominal pain

5. Cough

5.1 Raw leafs along with 1 table spoon of natural honey should taken ones a day for 3 to 7 days.

Table 5.12: Medicinal plants used in treatment of cough

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Ocimum gratissium</i>	Ram tuloshi	Lamiaceae	Plant	Leaf	Cough

5.2 Leafs should be pounded well.

Patients needs to take these for 3 days.

Table 5.13: Medicinal plants used in treatment of cough

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Justicia adhatoda</i>	Basok	Acanthaceae	Plant	Leafs	Cough

6. Blood coagulation

Each of the leafs of these plants can coagulate blood from accidental cuts separately.

Each of the whole plant should be pounded and applied of the cut area.

Table 5.14: Medicinal plants used in treatment of blood coagulation

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Cynodon dactylon</i>	Durba	Gramineae	Grass	Whole plant	Amenorrhea and blood coagulation
<i>Mikania micrantha</i>	Germany lota	Asteraceae	Climber	Stems	Gastric problem and blood coagulation

7. Fire burns

Ripe banana should be mashed and applied on the burnt place for 3 to 4 days

Table 5.15: Medicinal plants used in treatment of fire burns

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Musa sp.</i>	Kola	Musacea	Plant	Fruit	Fire burns

8. Cuts and Wounds

Leafs should be crushed into smooth paste and applied of the wounds for 2 to 3 days.

Table 5.16: Medicinal plants used in treatment of cuts and wounds

Scientific name	Local name	Family	Habitat	Part used	Local use
<i>Coccinia grandis</i>	Telakochu	Cucubitaceae	Creeper	Leaf	Cuts

9. Urinary bladder stone

Leafs should be eaten raw with a pinch of salt for a month ones a day.

Table 5.17: Medicinal plants used in treatment of urinary bladder stone

Scientific name	Local name	Family	Habitat	Part used	Local use
Kalanchoe pinnata	Pathor kuchi	Crassulaceae	Plant	Leaf	Abdominal disease Urinary bladder stones

10. Snake bites

The leafs of the plant should be pounded well and give the patient who is being beaten by snake.

Table 5.18: Medicinal plants used in treatment of snake bite

Scientific name	Local name	Family	Habitat	Part used	Local use
Vitex negundo	Nishindi	Lamiaceae	Tree	Leaf	Snake poison

11. Ringworm

Leafs of the plant should be crushed and applied on the affected area for 7 days.

Table 5.19: Medicinal plants used in treatment of ringworm

Scientific name	Local name	Family	Habitat	Part used	Local use
Hemigraphis hirta	Buri pan	Acanthaceae	Plant	Whole plant	Ringworm and heat stroke

12. Irregular menstrual cycle

Bark of the tree should be sun dried and crushed.

Patient can take the powder for 2 to 3 months

Table 5.20: Medicinal plants used in treatment of irregular menstrual cycle

Scientific name	Local name	Family	Habitat	Part used	Local use
Saraca asoca	Asok	Fabaceae	Tree	Bark	Regular menstruation

13. Arthritis

Leafs of the plant should be crushed after sun drying.

The powder should be taken as daily medicine for elderly people.

Table 5.21: Medicinal plants used in treatment of arthritis

Scientific name	Local name	Family	Habitat	Part used	Local use
Moringa oleifera	Sojne	Moringaceae	Tree	Leaf	Arthritis

Chapter 6: Conclusion

6.1 Conclusion:

The ethnopharmacological survey conducted at Karatipara in the Jhenaidah district of Bangladesh revealed a rich diversity of medicinal plants used by the local community for various healthcare purposes. The study identified a total of 32 plant species belonging to 27 families, which were utilized to treat a wide range of ailments including gastrointestinal disorders, respiratory problems, skin diseases, and reproductive disorders, among others. The findings of this survey highlight the significant role of traditional medicine in the healthcare system of the local community. The knowledge and practices related to medicinal plants have been passed down through generations, indicating the importance of preserving and promoting traditional healing practices in the region. Furthermore, several plant species identified in this study have not been extensively studied in terms of their medicinal properties, thus presenting opportunities for further scientific research and potential drug discovery.

It is crucial to conserve the plant biodiversity in Karatipara and other similar regions to ensure the sustainability of traditional medicinal practices. Efforts should be made to document and validate the traditional knowledge of medicinal plants through collaborative research involving local communities, ethnobotanists, and pharmacologists. This will not only contribute to the preservation of cultural heritage but also aid in the development of new and effective healthcare interventions.

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