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Diversity of Plant Flora in Suttur Matt, Mysuru

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Abstract

Plants play a critical role in the development of human civilization. Medicinal plants are considered as rich resources of ingredients which can be used in various drug discoveries. Suttur matt has a history of thousands of years. In this campus around 96 varieties of plants species belongs to 45 family, in which 30 herbs, 15 shrubs, 01 climbers, 50 trees, 01 pteridophytes and 04 gymnosperms were identified and documented by their botanical name, family, part used, habit and its uses. The study found that majority of the plants recorded from the campus are having high medicinal plants and one endangered species also noted.

Keywords: *Medicinal plants, flora, Suttur matt, Mysuru*

INTRODUCTION

Nature is the best example of the phenomenon of co-existence. Plants have close contact with human societies for their usage, especially in medicines. About 10th of the plant species over 50000 species are exploited for pharmaceutical and cosmetic products (2). Different parts of plants like leaves, roots, fruits, bark, flowers, and some whole plants are used to synthesize drugs. According to WHO, 80% of populations in developing countries depend on traditional and Ayurvedic medicine for their primary health care by the usage of medicinal plants (10)

Mysore is noted for its heritage structure and palace, the special attraction of Mysore is the DASARA festival. The plant flora of Mysuru shows vast diversity with 1601 species of flowering plants belonging to 170 families and 778 genera (7). Very common and notable plants are *Piper betel, Morus alba, Santalum album, Asparagus racemosus, Tinospora cardifolia, Gymnema sylvestris, Hemidesmus indicus, Cynodon dactylon* and many more.

Suttur Math is a pilgrim center, which has a history of more than a thousand years. Suttur Jagadguru Sri Veerasimhasan Math can be aptly described as an active ongoing movement that upholds the cause of social and economic justice, based on spiritual ideals, as propagated by Shiva thinkers. Math propagates a religious and spiritual faith that is distinctly known as the Veerashaiva faith. It is a leading organization for the continuance of Veerashaiva, disseminating the ideals of universal brotherhood and striving to spread human values and ethics through an array of activities- spiritual, cultural, and educational. The present work was carried out to enlist the plant flora on the campus which includes herbs, shrubs, trees, and climbers. The work was carried out to identify, and report the different vegetation and also to isolate medicinal plants in the Suttur matt branch, Mysuru.

MATERIALS AND METHODS

Study area: the present study was carried out in Sri Suttur Math, Mysuru, which was on the outskirts of the foothills of Chamundi Hills. The area lies between 12.286 N Latitude and 76.663 E Longitude (Fig. 1).

Methodology: Periodical trips were carried out in different seasons during 2018-19. The plants were recorded in the field notebook for future identification. Plants were identified based on characters with the help of standard flora (3). Identified plant specimens

have been arranged based on their family, botanical name, vernacular name, uses, and especially their conservation status. The families have been arranged according to Bentham and Hooker's system of classification (1).

RESULTS

Diversity of plant flora study of Suttur matt, Mysuru branch comprises 96 varieties of medicinal and ornamental plants belonging to 45 families. The plants have been identified and documented based on family, botanical name uses, and conservation status (Table 1). Among obtained plant species 30 herbs, 15 shrubs, 01 climbers, 50 trees, 01 pteridophyte, and 04 gymnosperms (Fig. 2).

The present study reveals medicinal uses of different plant parts such as 21 whole plant, 04 root, 04 bark, 01 stem, 33 leaves, 09 flowers, 15 fruit, 01 fruit rind, 01 endosperm/ tender water, 01 latex, 01 resin, 01 cones, 01 mucilage, and 03 wood.

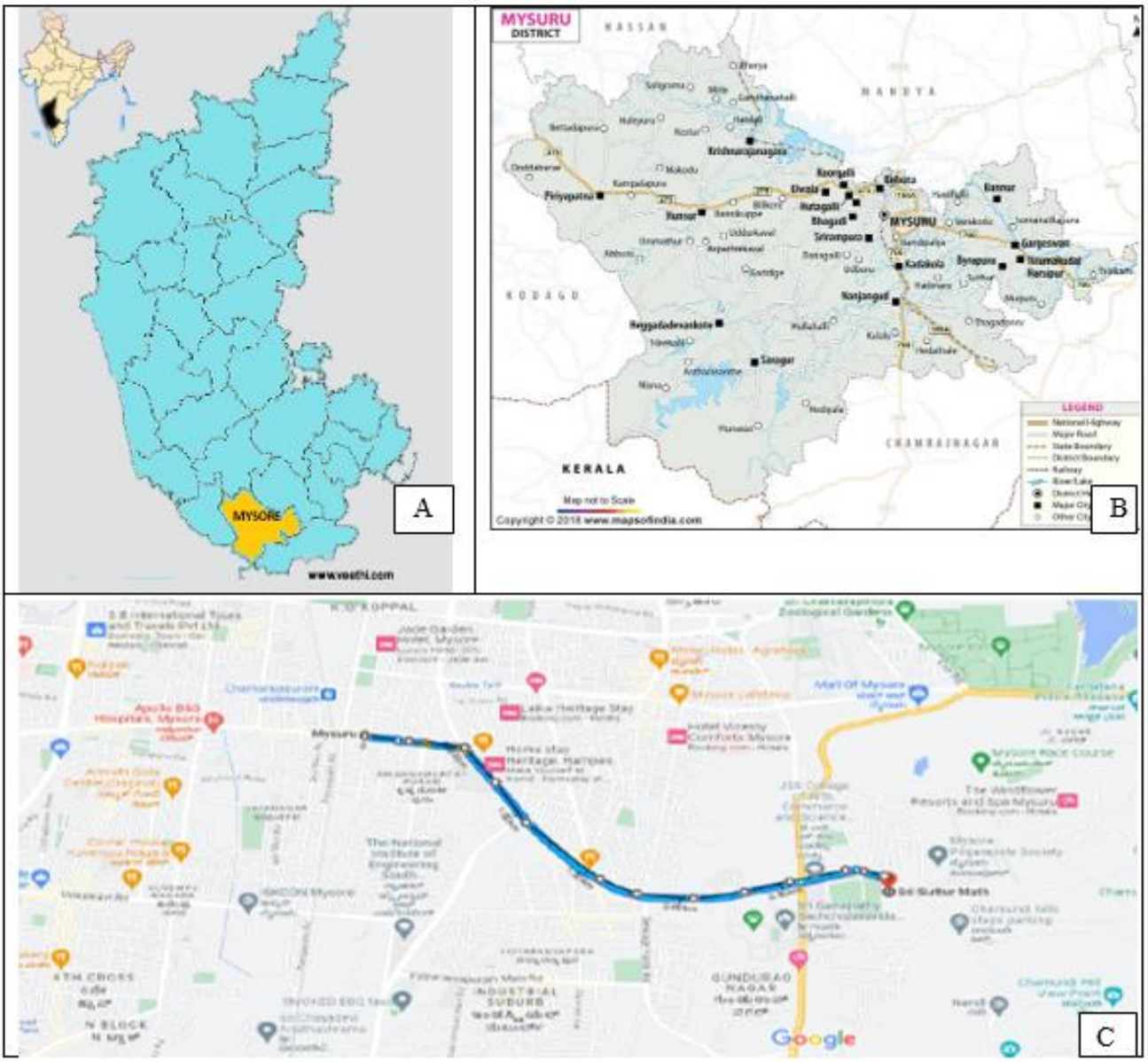

Fig. 1: A) Karnataka map; B) Mysuru district region map; C) Route map showing Sri Suttur Matt, Mysuru Branch.

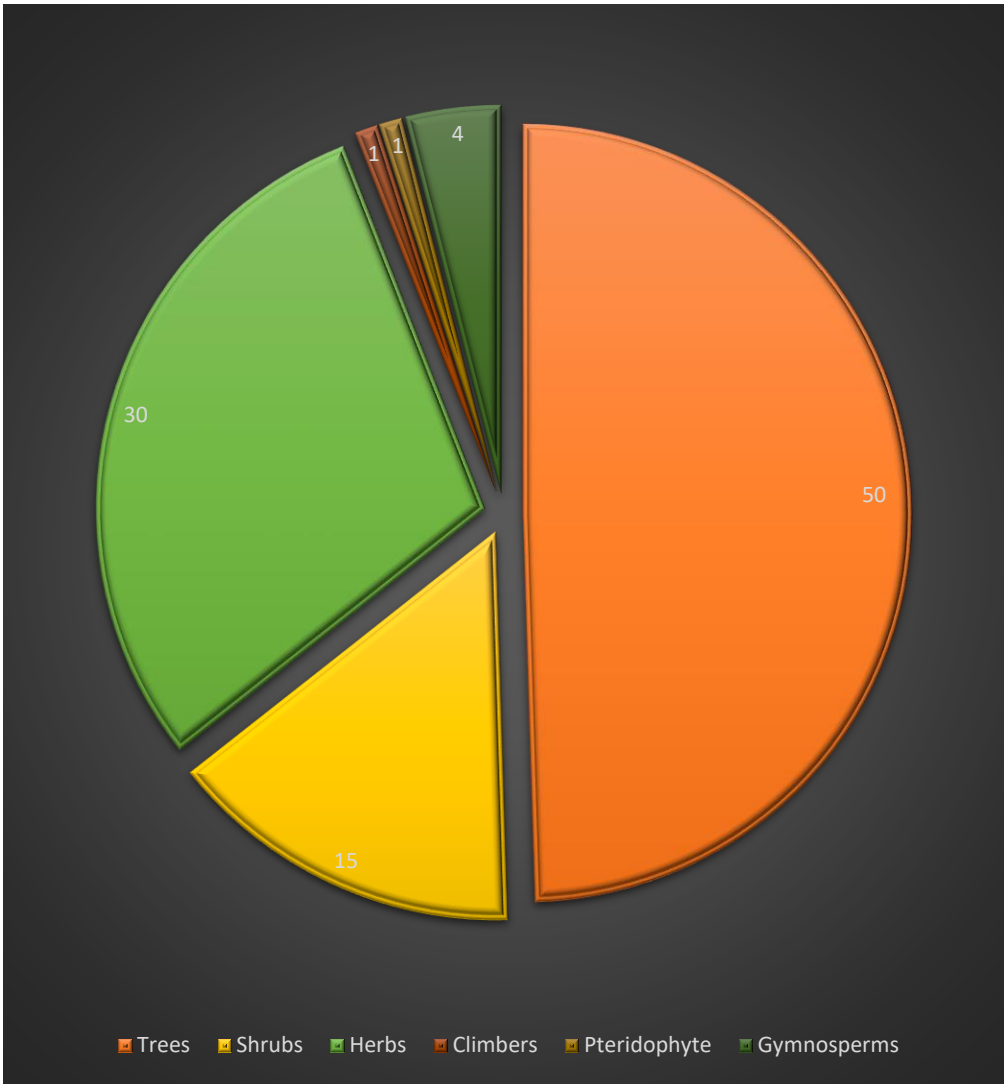

Fig. 2: Habit wise uses of plant parts

Table: 1: List of plant species in JSSCACS, Medicinal garden

Sl. No.	Family	Botanical name	Local names	Medicinal uses	Part used	Habit	Conservation status
1.	Amaranthaceae	*Amaranthus viride*	Harive	Fever, urinary disorders	Leaves	H	LC
2.		*Alternanthera sessilis*	Hongonne	Night blindness, fever	Whole plant	H	LC
3.	Anacardiaceae	*Magifera indica*	Mango	Toothache, vomiting, wounds, cuts	Leaves	T	NE
4.	Annonaceae	*Annona squamosa*	Seetapala	Antioxidant, vitamin C	Fruit	T	LC
5.		*Polyanthia longifolia*	Kombada mara	Rheumatism, fever, skin problems	Bark	T	LC
6.	Apiaceae	*Centella asiatica*	Ondalaga	Leprosy treatment, stones Promotes memory	Leaves	H	LC
7.	Apocynaceae	*Catharanthus roseus*	Sadhapushpa	Burns, insect bites, brain health	Flowers	H	NE
8.		*Nerium oleander*	Gangle	Scabies, eye disease, Diabetes	Leaves	T	LC
9.		*Plumeria alba*	Bili devaganagle	Intestinal worms, vermifuge,	Flowers	T	NE
10.		*Plumeria rubra*	Kempu devaganagle	Abortfacient	Fruits	T	NE
11.	Arecaceae	*Areca catechu*	Adike mara	Hemorrhage, nerve system diseases	Fruits	T	NE
12.		*Dypsis lutescens*	Cane palm	Air purifier	Whole plant	T	NT
13.		*Cocos nucifera*	Tengu	Kidney inflammation, diarrhea	Fruit Water	T	NE
14.		*Roystonea regia*	Royal palm	Construction	Wood	T	CE
15.	Araceae	*Anthurium andraeanum*	Tail flower	An air purifier from toxic chemicals	Plant	T	NE
16.		*Colocasia esculenta*	Taro	Antibacterial, Promote menstruation	Leaves	H	LC
17.		*Dieffenbachia amoena*	Dumb cane	Air purifier, poisonous to some organisms	Plant	H	NE
18.	Asparagaceae	*Agave Americana*	Kattale	Wounds, cuts, inflammation	leaves	H	NE
19.		*Asparagus racemosus*	Shatavari	Female oriented problems	Roots	H	EN
20.		*Dracaena reflexa*	Song of flame	Air purifier	Whole plant	S	NE
21.		*Sansevieria trifasciata*	Snake plant	Ringworm, fungal diseases	Whole plant	H	NE
22.	Asteraceae	*Chromolaena odorata*	Devil weed	Wounds, burns, skin infections	Whole plant	H	NE
23.		*Synedrella nodiflora*	Cinderella	Laxative, antioxidant	Leaves	H	NE
24.		*Tithonia diversifolia*	False sunflower	Constipation, stomach pain	Leaves	S	NE

25.		*Tridax procumbens*	Gabbu sanna shavanthi	Jaundice, diarrhea, dysentery	Leaves	H	NE
26.	Bignoniaceae	*Jacaranda mimosifolia*	Paadari	Gastrointestinal problems	Flowers	T	VU
27.		*Millingtonia hortensis*	Aakasha mallige	Sinusitis	leaves	T	NE
28.		*Spathoda campanulata*	Neeru Kaayi	Kidney diseases	Leaves, flower	T	NE
29.		*Tabebuia rosea*	Vasantha rani	Malaria, uterine cancer	Leaves	T	NE
30.	Cactaceae	*Epiphyllum oxypetalum*	Brahma kamala	Urinary infection, heart disease	Leaves	H	LC
31.	Costaceae	*Chamaecostus cuspidatus*	Insulin plant	Anti-diabetic	Leaves	H	NE
32.	Cupressaceae	*Cypressus macrocarpa*	Cypress	Fungal infection	Cone	T	LC
33.		*Juniperus communis*	Juniper	Diuretic, antiseptic	Fruits	S	LC
34.		*Thuja occidentalis*	Thuja	Dry hair	Leaves	S	LC
35.	Cycadaceae	*Cycas revoluta*	Sago	Blood vomiting, Hair wash	Leaves	T	LC
36.	Elaeocarpaceae	*Elaeocarpus angustifolius*	Rudrakshi	Indigestion, vomiting	Berry	T	EN
37.	Euphorbiaceae	*Acalypha indica*	Kuppi	Toothache, burns, piles	Whole plant	H	NE
38.		*Codiaeum variegatum*	Aara Bedhi soppu	Diarrhea, stomach ache, ulcer	Leaves	S	LC
39.		*Euphorbia heterophylla*	Bedhi soppu	Constipation, asthma	Whole plant	H	NE
40.		*Euphorbia hirta*	Asthma weed	Fever, gas, itch, and skin conditions	Whole plant	H	NE
41.		*Euphorbia milii*	Kiss me not	Warts	Latex	H	LC
42.		*Jatropa curcas*	Jamal gotta	Treat fungal and bacterial infection	Fruits	S	NE
43.		*Phyllanthus emblica*	Bettada nelli	Treat constipation, reduce cough, purify blood	Fruits	T	NE
44.		*Ricinus communis*	Aralu	Piles, cough, wound	Leaves	S	NE
45.	Fabaceae	*Albizia lebbeck*	Hombage	Antidote for snakebite, food poisoning	Flowers	T	NE
46.		*Bauhinia variegate*	Kempu mandara	Thyroid problems, low blood sugar	Bark	T	LC
47.		*Cassia fistula*	Kokke	Fever, cardiac disorder	Whole plant	T	NE
48.		*Denolix regia*	Gulmohar	Chronic fever, scorpion bite, piles, wounds	Leaves	T	LC
49.		*Erythrina indica*	Paribhadra	Urine retention, diabetes	Roots	T	LC
50.		*Pongamia pinnata*	Honge	Cleaning teeth, strengthening gums, Diarrhea, Cough	Roots, leaves	T	LC

51.		*Senna occidentalis*	Kolthogache	Typhoid, liver problems	Leaves	S	NE
52.		*Sesbania grandiflora*	Agase	Memory promoter	Leaves, fruits	T	NE
53.		*Tamarindus indica*	Tamarind	Wounds, abdominal pain, inflammation	Leaves, fruits	T	LC
54.	Lamiaceae	*Leucus aspera*	Tumbe	Jaundice, intermittent fever, cough	Leaves	H	NE
55.		*Ocimum sanctam*	Tulasi	Cold, fever, bronchitis and cough	Whole plant	H	NE
56.		*Vitex negundo*	Lucky gida	Asthama, spleen enlargement, eye diseases	leaves	T	LC
57.	Llliaceae	*Aloe vera*	Lole sara	Piles, skin disorder	Leaves	H	NE
58.	Lythraceae	*Lawsonia inermis*	Mehandi	Headache, skin troubles, deodorant	Leaves	S	LC
59.	Magnoliaceae	*Michelia champaca*	Sampige	Digestive, carminative	Flowers	T	LC
60.	Malvaceae	*Hibiscus rosa-sinensis*	Dasavala	Skin diseases, Fever, Fertility treatments	Whole plant	S	LC
61.		*Sida cordifolia*	Benne garaga	Bronchial asthma, cold flu	Leaves	H	NE
62.	Meliaceae	*Azadirachta indica*	Bevu	Head lice, fever, rheumatism, asthma, worm infestations, insecticide	Whole plant	T	LC
63.	Menispermaceae	*Tinospora cordifolia*	Amruthaballi	Treat fever, cholera, diabetes, rheumatism	Whole plant	C	EN
64.	Moraceae	*Artocarpus heterophyllus*	Halasu	Night blindness, muscle building	Fruit	T	NE
65.		*Ficus bengalensis*	Aalada mara	Astringent to bowels, vomiting, fever	Bark	T	NE
66.		*Ficus benjamina*	Jawa atti	Malaria	Fruit	T	LC
67.		*Ficus carica*	Anjura	Gastrointestinal problems	Fruit	T	LC
68.		*Ficus elastica*	Rubber gida	Stomach problems	Mucilage	T	NE
69.		*Ficus religiosa*	Arali mara	Skin diseases, vomiting	Leaves	T	LC
70.	Muntaginaceae	*Muntingia calabura*	Gasa gase mara	Gastric ulcer, headache	Flowers	T	NE
71.	Musaceae	*Musa paradisiaca*	Banana	Dysentery, diarrhea	Fruit	H	NE
72.	Myraceae	*Psidium guajava*	Seebe	Boost immune system, antibacterial	Leaves, fruits	T	LC
73.	Nyctaginaceae	*Boerhavia diffusa*	Punarnava	Nervous weakness, paralysis, constipation	Roots	H	LC
74.		*Bougainvillea spectabilis*	Kaagadada hoovu	Stomach ache, inflammation	Flower	S	NE
75.	Oxalidaceae	*Averrhoa carambola*	Komdrakshi	Chicken pox, ringworm, headache	Leaves	T	NE
76.		*Oxalis corniculata*	Changeri	Fever, piles, leprosy	Whole plant	H	NE
77.	Phyllanthaceae	*Phyllanthus multiflorus*	Phyllanthus	Jaundice	Leaves	T	NE

78.	Plantaginaceae	*Russelia equisetiformis*	Kenjige	Malaria and inflammatory	Whole plant	H	NE
79.	Poaceae	*Bambusa vulgaris*	Bidiru	Fuel, fodder	Stem, Leaves	S	LC
80.	Proteaceae	*Grevillea robusta*	Silver oak	Headache, dizziness	Bark and leaves	T	LC
81.	Pteridaceae	*Pteris sp.*	Fern	Pollution control	Plant	H	NE
82.	Punicaceae	*Punica granatum*	Dalimbe	Bleeding piles, anemia, pox	Fruit rind	T	LC
83.	Rosaceae	*Rosa indica*	Rose	Antispetic, healthy hair, skin problems	Petals	S	LC
84.	Rubiaceae	*Hamelia patens*	Fire bush	Headache, asthma, skin disorders	Flower	T	LC
85.		*Ixora coccinia*	Kisukare	Hypertension, Headache	Flowers	S	NE
86.	Rutaceae	*Aegle marmelos*	Bilva patre	Stomach disorder, weight loss	Fruits, leaves	T	NT
87.		*Citrus limon*	Gajhanimbe	Digestive, stomachic, laxative, antiseptic, mosquito repellent	Fruits	T	NE
88.		*Murraya koenigii*	Curry	Acrid, astringent, cooling, aromatic, demulcent, Febrifuge, stomachic	Whole plant	T	NE
89.		*Ruta graveolens*	Nagadhali	Bug bite, Cold, fever, snakebite Earache, toothache	Leaves	H	LC
90.	Sapotaceae	*Manilkara zapota*	sapota	Immunity, antibacterial	Fruit	T	LC
91.	Solanaceae	*Santalum album*	Sandalwood	Jaundice, cough, bronchitis, Dysentery Skin complaints	Wood	T	VU
92.	Strelitziaceae	*Sterelitzia reginae*	Bird of paradise	Air purification	Plant	H	LC
93.	Urticaeae	*Pilea microphylla*	Angelo weed	Urinary problem	Leaves	H	LC
94.	Verbenaceae	*Duranta erecta*	Durantha	Asthama, bronchitis, insect repellant	Whole plant	S	LC
95.		*Tectona grandis*	Teak	Burning sensation, diabetes leprosy, and skin diseases	Wood	T	EN
96.	Zygophyllaceae	*Guiacum officinale*	Lignum vittae	Test for blood in stools, Rheumatism, toothache	Resin	T	EN

Note: EN- endangered; VU- vulnerable; LC- least concern; NE- not evaluated; T- trees; S- shrubs; H- herbs; C- climber

DISCUSSION

According to the observation traditional medicine uses different parts of the plants (root, bark, leaves, flowers, fruits, latex, and resin) to cure various kinds of diseases. Medicinal plants are an integral part of developing the pharmaceutical industry and to synthesis of various kinds of drugs. Some of the medicinal plant species have been mentioned in this study have already reported with some methods, Roots of *Asparagus racemosus* is commonly known as shatavari, a rejuvenating tonic especially for females to treat reproductive disorders (9). *Euphorbia hirta* is used to cure septic ulcers in the nail corner and also increases lactation in post-delivered mothers (4). Tulasi has great medicinal value, the oil is used against insects and bacteria. Amruthaballi leaves and roots are considered as good for diabetes, fever, rheumatism problems (9). Vata, pitta, and kapha are the three major disorders found in humans and this is cured by leaves and roots of *Plumeria alba* and *Plumeria rubra* (2). Some plants are poisonous sometimes like *Ruta graveolens* and *Diffenbachia amoena.*

There are many herbs that are predominantly used to treat cardiovascular problems, liver disorders, central nervous system, digestive and metabolic disorders. Herbal remedies play a fundamental role in traditional medicine where the plants are often used as therapeutic agents as antiseptic, anti-inflammatory, and in the treatment of infections, and diseases including candidiasis and dermatophytes (9).

Nowadays these medicinal plants are over-exploited due to their efficiency in curing diseases. Immediate action should be taken to conserve these species by creating awareness and growing in suitable regions. Some endangered plants like *Elaeocarpus angustifolius, Guiaicum officinale,* and *Tectona grandis* were also maintained on the campus. As the conservation of biodiversity has become the most important factor, it is important to grow and gain knowledge of each plant's growth condition.

CONCLUSION

The present study has high economic and medicinal uses for plants on the campus. Conservation is the only remedy for the protection of the plants. This survey has brought up interest and concern about plants and their parts and their importance for human sustainability. The documentation of plants is a way to preserve knowledge and it can used for further studies. Out of 96 plants enlisted 90 plants have high medicinal value and in the future they can used to evaluate and extract bioactive compounds to produce new herbal drugs.

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