WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 6, 661-674. Review Article ISSN 2277–7105

REVIEW ON LEAVES AS SPICES USED AS CULINARY AT TRIPURA, INDIA AND IMPORTANCE IN HEALTHY LIFE

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Article Received on 15 Feb. 2026,
Article Revised on 05 March 2026,
Article Published on 16 March 2026,

https://doi.org/10.5281/zenodo.19045069

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How to cite this Article: [1]Biplab De, [2]*Susmita Sarkar (2026). Review On Leaves As Spices Used As Culinary At Tripura, India And Importance In Healthy Life. World Journal of Pharmaceutical Research, 15(6), 661–674.

ABSTRACT

Spices are the derived parts of aromatic plants, which are used in small quantities in cooking to enhance aroma and flavor in the food items. Spices may be either fresh or dried parts of the plants such as flowers, leaves, fruits, seeds, bark, bud, roots, bulb, rhizome or whole plants. Spices are not only used in cooking food items, but they also possess potential health benefits and medicinal properties. This review will highlight the leafy spices that are used by people of state Tripura, India. In Tripura, most commonly used leafy spices includes curry leaves, mint, coriander leaves, Mexican coriander, tejpat, lemon leaves, lemon grass, ivy-rue, Indian basil, fenugreek leaves, etc. These leafy spices are enriched with phytochemicals and phytonutrients. These components exhibit antioxidant activity, stimulant, antimicrobial activity, antiseptic properties, anti-inflammatory and analgesic activity, etc. and thus spices are also used in treating various types of diseases, infections, pains and symptoms like cardiovascular diseases, respiratory diseases, heartburn, irritable bowel syndrome, skin infection, indigestion, hair fail and many more.

KEYWORDS: Spices, Tripura, culinary, leafy spices and health benefits.

INTRODUCTION

Spices are derived from the plant parts such as flowers, leaves, fruits, seeds, bark, bud, roots, bulb, rhizome or whole plants, either in fresh or dried state. For example; Curry leaves,

Garlic bulb, Turmeric rhizome, Clove bud, Cinnamon bark, Coriander seeds etc.[1] In this, we focus on leafy spices like coriander, basil, fenugreek, curry leaf, bay leaf, rosemary, marjoram, thyme, etc. which can impart taste, flavor and aroma to the food as well as taking care of the human health.[2]

The word "Spices" is obtained from Latin, which means quite simply species or substance; spices are parts of aromatic plants with a strong flavor or preparations, used in small quantities while cooking and also add flavor to food as seasoning.[3] The International Organization for Standardization (ISO) definition, spices and condiments defined as "vegetable products or mixtures thereof free from extraneous matter, used for flavouring, seasoning and imparting aroma in foods".[4] From ancient times, Spices are primarily associated with enhancing the flavor and aroma in the food items but almost all the spices have some medicinal purposes.[5] Spices are utilized in food processing industry, pharmaceutical, cosmetics, beverages, liquors and perfumery products.[5-6] Spices contain powerful phytonutrients which can helps to enhance human health and well-being. They can prevent many chronic illnesses, such as diabetes, cancer, cardiovascular disease and other serious pulmonary, neurological and autoimmune conditions.[2,6] As spices are derived from plant parts handling and storage of the spices is an essential factor. They require proper processing, packaging, storage and handling for preventing the deterioration. This deterioration may lead to the loss of quality and therapeutic activity.[5-6] In this review, mostly focuses on the spices & their classification, leafy spices and leafy spices that are used in Tripura culinary, their active constituent and medicinal uses.

CLASSIFICATION OF SPICES

Spices can be classified based on several factors which include the parts of plants, their flavor, their seasonal growth, botanical family, degree of test, growth habit and many more.[1,4,7] The classifications are represented in Table 1, and Table 2.

Table 1: Spices can be classified based on parts of plants, degree of test, season of growth, Origin & flavor, growth habit.[1,7]

Category	Classes	Examples
Parts of plant	Seed	Coriander, fenugreek, cardamom,
	Bark	cinnamon,
	Leaf	Curry leaf, mint, coriander, basil, thyme, bay leaf,
	Aril	Mace
	Unopened flower	Clove

	bud	
	Flower bud	Caper
	Bulb	Garlic
	Stem	Celery ,
	Root	Angelica, horse radish
	Rhizome	Ginger, turmeric
	Fruit	pepper, ajowan, fennel, star anise,
	Berry	Juniper berry
	Stigma	Saffron
	Pod	Vanilla
	Rind	Kokam, camboge
Degree of taste	Hot spices	Black & white peppers, mustard
	Mild spices	Coriander
	Aromatic spices	Clove, dill, cinnamon, fennel, cardamom, fenugreek
	Aromatic vegetables	Garlic, onion
	Herbs	Thyme, basil, bay leaf
Growth habit	Shrubs	Chilli, rosemary
	Trees	Cinnamon, clove, nutmeg, tamarind
	Climbers	Vanilla, black pepper
	Herbs	Thyme, basil, bay leaf
	Rhizomes	Ginger, turmeric
Season of growth	Annual	Fenugreek, chilli, aniseed, fennel, coriander, mustard
	Biennial	Parsley, onion
	Perennial	Cinnamon, ginger, clove, black pepper
Origin & flavor	Pungency spices	Ginger, garlic, oregano,
	Aromatic fruit	Fenugreek, cumin
	Aromatic bark	Cinnamon
	Phenolic spices	Allspices, clove
	Coloured spices	Turmeric, saffron

Table 2: Classification of spices on the basis of leaf.[8, 9]

Category	Classes	Examples
Leaf blade	Simple leaf	Mango leaves, apple leaves, guava leaves,
	Compound leaf • Pinnately compound leaf (paripinnate, impariponnate, unipinnate, bipinnate, tripinnaate)	clove leaves, neem leaves Rose leaves, neem leaves
	• Palmately compound leaf (unifoliate, bifoliate, trifoliate, quasrafolite, multifoliate)	Horse chestnut, lemon leaves
Leaf venation patterns	Reticulate venation (netted venation)	Maple leaves,
	Parallel venation	Lemongrass leaves
	Dichotomous venation	Ginkgo leaves
Shapes of leaves	Linear, ovate, elliptical, oblong, cordate, lanceolate, acicular, reniform, orbicular, hastate, sagittate, rhomboid, spatulate, oblique, cuneate, etc.	Grass, china rose, guava, banana, betel, bamboo, pine, Indian pennywort, lotus etc.

Leaves margins	Entire (smooth, serrate (toothed), lobed etc.	Indian Cassia or Tejpat, Fenugreek leaves, Coriander leaves
Leaf arrangement	Alternate arrangement (spiral)	Apple and rose plant
	Opposite arrangement	Mint and maple plant
	Whorled arrangement	Horsetail
	Rosette arrangement	Lettuce

IMPORTANCE OF SPICES[1,2,3,6]

- **Culinary purposes:** Spices are primarily added to the culinary, to enhance the flavor, taste and aroma in the food items and beverages.[3] Spices like coriander, fenugreek, basil, curry leaf, mint, bay leaf, thyme, ginger, garlic, chillies, clove, dill, cinnamon, cardamom etc. are used for cooking food items. For example, coriander leaves and seeds are widely used in different dishes to enhance the taste and aroma to the food items.
- **Medicinal purposes:** Since from the ancient times spices are being used as a traditional medicine. Almost all the aromatic plants and spices have some medicinal properties. They help in cure and prevent many diseases. They also help in boosting the immunity system.[3] Spices like Turmeric, Ginger, garlic, Clove, dill, cinnamon, cardamom, basil, curry leaf, mint etc. have medicinal properties.[1,3] For example, Mint is rich with antioxidant, anti-inflammatory properties and also has antiseptic activity. Mint can use to mitigate irritable bowel syndrome, heartburn, abdominal pains and cramps like symptoms and can relax the gastric discomforts.[2] Curry leaves can strengthen stomach function and relieves kidney pain. They help to prevent hair fail and premature graying.[2] Spices are often employed in pharmaceutical industries for their medicinal properties.
- **Economic Importance:** Indian spices have highest market demand all over the world for its richness and quality. Indian spices and spice products are exported in the international market and it adds value to the Indian economy. As per the review of Spices Board's Trade Information Services (TIS) departments, the export performance of India is 17.99 lakh tons of spices and spice products valued Rs.39994.48crore (4722.65 million US$) (during 2024-25) as compared to 15.40 lakh tons valued Rs.36958.80 crore (4464.17 million USD) (during 2023-24). It is reported that during 2023-24 to 2024-25, there is increase of 17% in volume 8% in rupee terms and 6% in dollar terms of value.[6] Spices are frequently employed in various industries such as food, food processing, pharmaceutical industries, cosmetics, perfume industries which helps in growing the Indian economy.

- **Preservation purposes:** Spices contain essential oil which helps to preserve the foods and food items.[3] They inhabit or eliminate the growth of microbes and increase the self-life of the products. Spices like garlic, clove, cumin, cinnamon, turmeric etc. are uses as a preservative.[1]

INDIAN SPICES

Spices of India are famous for its unique and rich qualities from the ancient times in the global markets. They are the largest producer, consumer and exporter in the world due to its rich agro-climatic conditions and soil type.[10] According to the reports Spice Board of India, India grows approximately 60 different varieties spices, which comprises of 8.12 million tonnes from an area of 3.88 million ha (2017-18).[3] About 15.78 Lakh MT (15%) exported around 180 countries.[10] The foremost spice contributing states of India are Kerala & North Eastern states such as Assam, Arunachal Pradesh, Meghalaya, Manipur, Nagaland, Mizoram, Sikkim, and Tripura, along with Karnataka, Andhra Pradesh, Tamil Nadu West Bengal, and Madhya Pradesh. Chilli, Cardamom (small & large), Mint, Clove, Turmeric, Coriander, Garlic, Ginger, fenugreek, fennel, Celery, Ajwain seeds, Cumin and many more, spices are majorly produced across the country.[6] Government of India is taking various types of initiatives related spice field to meet the demands spices in the global market. Numerous developmental schemes, programs and different collaborative projects have been launched to grow and develop the spice industries. According to Spice board Schemes, newly launched and implemented schemes like Sustainability in Spice Sector through Progressive, Innovative and Collaborative Interventions for Export Development (SPICED) (FY- 2025-26).[6]

SPICES OF TRIPURA

Tripura is a small state of North-East in India, known for its picturesque hills and cultural heritage. Tripura lies between 220 56’N to 240 32’N and 900 09’E to 920 20’E and covers an area of 10,49,169 sq.km.[11-13] The North-eastern region of India lies within the Indo-Burma global biodiversity hotspots. Tripura is a home garden for wide variety of flora and fauna. The flora comprises 379 tree species, 320 shrubs, 581 herbs 165 climbers, 16 climbing shrubs, 35 ferns and 45 epiphytes.[12] Spices like ginger, chilli, turmeric, large cardamom and black pepper are highly produced across the North-eastern states, among them ginger, large cardamom and turmeric these three are commercially produced crops.[6,14]

Tripura account about 31% of tribal population of the state’s total population. There are 19 ethnic communities like Tripuri, Garo, Halam, Lushai, Jamatia, Mag, Munda, Orang, Santhal,

Reang, Noatia, Chakma, Bhil, Bhutia, Khasia, Kuki, Lepcha, Chaimal, and Uchai and other communities like Bengali residing in this state.[11-13] Each of the community has their own antique and unique language, culture, food habit and their authentic spices and condiments that are used as culinary.[12]

In Tripura, wide verity of spices is grown for its rich agro-climatic conditions and soil type. Tripura commercially produce chilli, ginger, turmeric, garlic, methi, mustard seeds and black pepper on a large scale.[4,6,14] They use different parts of the plants, among them leaves are most commonly used for culinary purposes.[11]

In this review, mostly focuses on the leafy spices that are used in state Tripura. The list of leafy spices species including the botanical name, local name, family, habit, their constituents and their medicinal uses are given in the Table 3,4,5. The leafy spices includes coriander leaves, Indian bay leaf, mint leaves, sweet basil, lemon leaves etc. are used as culinary items in Tripura.

Table 3: Leafy spices of Tripura.[2,4,6,9,11,12,13,15,16,17,18,19,20,21]

Sl No	Common Name	Botanical Name	Family	Leaves type
1	Curry leaves(E),[2] Curry patta(B),[13] Barsang(B)[15] Curry Bwlai(K)[12] Mitha Neem(H)[6]	*Murraya koenigii (L.) Sprengel*	Rutaceae	Palmately compound leaf, alternate arrangement, ovate lanceolate with oblique base, reticulate venation[15]
2	Tejpat (E) (H)[6] Tej patta(B)[13] Indian Cassia(E)[6]	*Cinnamomum tamala*	Lauraceae	Leaf is elliptical in shape, oblong, entire, long pointed, opposite or sub opposite arrangement, leathery and shiny[16]
3	Coriander leaves or Cilantro (E)[2] Dhania(K)[11] Dhana, Dhania (B)[6] Dhania or Dhanya (H)[6]	*Coriandrum sativum L.*	Apiaceae (Umbelliferae)	Leaf blade of lower leaves are simple and Upper leaves are Pinnately compound and leaflet are finely cut linearly, sessile rounded lobes, alternate arrangement[6]
4	Mexican coriander(E)[17] Bilati dhania pata (B)[13] Bakhor(K)[11]	*Eryngium foetidum L.*	Apiaceae	Palmately compound leaf or biennial, Oblanceolate, toothed margin, Rosette arrangement[17]
5	Peppermint(E)[6] Pudina(B) (H)[6] Spearmint(E)[6]	*Mentha piperita* Syn- *Mentha spicata*,	Lamiaceae	Leaves are long, oblong, ovate shape and opposite arrangement[6]

		Mentha Arvensis		
6	Lemon leaf (E) Kawji Bwlai (K)[11]	*Citrus limon*	Rutaceae	Palmately compound leaf[9]
7	Sweet Basil(E)[4,18] IndianBasil[6], Holy basil[18] Babui tulsi (B)[6] Ban thulasi, Bawari Bawari (H)[6] Banta(K)[12]	*Ocimum basilicum L.* (Sweet Basil) Syn- *Ocimum americanum L* (Holy basil)	Lamiaceae (Labiatae)	Erect glabrous[6], elliptical in shape[18]
8	Fenugreek leaves (E) Methi (B) (H)[4]	*Trigonella foenum graecum L.*	Fabaceae	Pinnately compound, smooth, Oblanceolate to oblong leaflets[4]
9	Lemongrass(E)[4,19] Suimander (K)[11]	*Cymbopogon citratus*	Poaceae (Gramineae)	Parallel venation, Erect, glabrous plane, rough margins, leaves forms dense clumps[19]
10	Mwiching Bwlai(K)[12] ivy-rue (India)[20]	*Zanthoxylum limonella* Syn- *Zanthoxylum rhetsa*	Rutaceae	Leaf blade are compound with odd pinnate, alternate arrangement, opposite or sub opposite leaflets, ovate or elliptical in shape, entire to glandular leaf margins, surface of the leaf is scrabrous[20-21]

N/B – Bengali name (B), kokborok name (K), English name (E), Hindi (H), Synonyms (Syn).

CHEMICAL CONTENTS AND NUTRITIONAL CONTENTS PRESENT IN LEAFY SPICES

Spices can impart aroma, flavour, and colour owe their distinctive properties, due to the presence of chemical compounds. Each and every spice is unique in aroma, flavour and colour for their presence of diver's chemical constituents. They are also known as secondary metabolites of plants. Spices are enriched with phytochemicals such as alkaloids, flavonoids, terpenoids, phenolic compounds, saponins and nitrogen-containing compound etc. spices are loaded with goodness of phytonutrients like carbohydrates, proteins, dietary fibres, fats, vitamins, minerals and electrolytes etc. phytonutrients and phytochemicals plays an important role in human health. Various spices contain their distinct phytochemicals and phytonutrients in them which have been given in the Table 4.

Table 4: Reported chemical compositions present in leafy spices.[2,4,16,17,19,20,22,23,24,25,26,27,28,29,30,31,32,33,34]

Spices	Chemical Constituents	Nutritional content	Figures
Curry leaf	Terpenes like monoterpene, sesquiterpene hydrocarbons, Alkaloids like carbazole alkaloid isomurrayazoline, mahanine, koenigin, mahanimbidine, murrayacine, scopolin, koenine, koenigine, Murrayazolinol koenidine, koenigicine, girinimbane, and amino acids like tyrosine, koenigin, phenylalanine, glutamic acid, koenioline, tryptophan etc.[4]	Carbohydrates 16.0%, protein 6.1%, fiber 6.4%, fat 1.0%, minerals, iron, calcium, nicotinic acid phosphorous and vitamin C[2]	 **Fig.1 Curry leaf[30]**
Coriander leaves	β-carotene, kaempferol, epigenin, coriandrylacetate, rhamnetin, linalool, Acetic acid, Geraniol, thiazole, coriandrin, pyridine, Phenolic acids, Phthalides, borneol, tetrahydrofuran derivatives, pyrazine, pthalides, coumarins, γ-terpinene, limonene, α-terpineol, isocoumarins etc[22,29]	vitamin A, vitamin K and vitamin C, Potassium, iron, magnesium, protein 3.3%, calcium 0.14%, phosphorus 0.06%, fat 0.6%, carbohydrate[2,29]	 **Fig.2 Coriander leaves[31]**
Tejpat	Eugenol, curzerene, curcumenol, limonene, sabinene, curzerenone β-Caryophyllene, furanogermenone, cinnamaldehyde, germacrene D, terpinoid compound α-pinene, ß-pinene, p-cymene, phenylpropanoid[16]	Vitamin B2, Vitamin B9, Vitamin B3 and minerals, Carbohydrate, protein, dietary fibre, sodium, phosphorous, calcium, potassium, magnesium[23]	 **Fig.3 Tejpat[31]**
Mint	Major components are menthol (36.9%), neomenthol (3.8%), limonene (3.29%), carveone (3.8%), menthone (28.8%), ß-pinene, 1,8cineole(3.8%), methyl acetate(4.5%), 3-octanol, α-pinene, γ-cadinene, α- phellandrene, trans sabinene hydrate, Piperitone, ß-myrcene, Dihydrocarveol acetate, Veridiflorol, L–menthone, Caryophyllene oxide, amyl isovalerate, 3-methylcyclohexanone, Menthofuran[24]	Vitamin A, Vitamin D, Vitamin C, Vitamin B, Vitamin E, Minerals like Calcium, iron, phosphorous[2]	 **Fig.4 Mint[32]**
Basil	Basilol, Anethole, Ocimol, α-Myrcene, Isospathulenol, Thymol, Hexanol, Nerol, Benzyl alcohol, 4-Allylphenol, Octanol, Anisaldehyde, Verbenone, Methyl benzoate, trans-Sabinene hydrate, L-Carvone, β-Ocimene, Ocimene oxide, Myrtenal, Terpinyl formate, Benzyl alcohol, Lavandulol, Isospathulenol, cis-Ocimene, α-terpinene, 3-Octanol, L-Camphor,	Carotene- β, Lutein-zeaxanthin, Protein 6%, dietary fiber 4%, fat 2%, Carbohydrate 2%,Vitamin A, Vitamin k, Vitamin C, Vitamin E, sodium, potassium, calcium, iron, folates, pyridoxine, niacin, thiamine, riboflavin, pantothenic acid,	 **Fig.5 Indian basil[11]**

	Cuminaldehyde, Cyclohexanol, Dihydroactinidiolide, α-Terpinolene, Ethyl cinnamate, β-Phellandrene[25]	magnesium[25]	
Lemon leaf	Limonene , n-Eicosane, Methyl eicosanoate , Methyl palmitate, elaidic acid methyl ester, Methyl stearate, hexadecanoic acid, taraxasterol, Cyclopentadecane , Tetradecanal, 9-Octadecenoic acid, Amyrolin, methyl arachisnte,3β-acetox-yolean-12-ene[26]	Vitamin C, Vitamin A, Vitamin B1&B2, Vitamin B6, folates, carotenoids, pectins, fatty acids like linoleic acid, linolenic[27]	 **Fig.6 Lemon leaf[11]**
Fenugreek	pyridine alkaloids, gentianine, trigonelline, carpaine, choline, saponins like glycosides of diosgenin,tigogenin, neotigogenin, and various polyphenolic substances, and amino acid like , histidine, 4-hydroxyisoleucine, flavonoids like, luteolin, quercetin, vitexin and isovitexin, apigenin[28]	vitamin C, vitamin B1&B2, vitamin A, phosphorous, Calcium, iron, sodium and potassium, protein 9.5%, Carbohydrate 42.3%, fat 10%, moisture 6.3%, fibre18.5%, nicotinic acid[4]	 **Fig.7 Fenugreek[28]**
Mexican coriander	E-2-dodecena, 3-dodecenal , α-pinene, decanal, carotol, γ-terpinene, trans-2-dodecenoic acid, 2,4,5-trimethylbenzaldehyde, 2,3,6-trimethylbenzaldehyde, hexadecanoic acid, limonene, mesitaldehyde, durylic acid[17]	Carbohydrate 6.5%, iron 0.02%, protein 3.3%, phosphorous 0.6%, moisture 85%,ash 1.7%, fat 0.6%, riboflavin, vitamin A, vitamin B vitamin C, carotene[17]	 **Fig.8Mexican coriander[31]**
Lemon grass	Citral, trans-citral i.e. geranial, myrcene, mixture of two isomeric acyclic monoterpene aldehyde, cis-citral i.e. neral, geranyl, acetate[19]	Moisture 10.00-13.85%, protein 0.16-0.44%, ash 4.79-13.03%, lipid 0.98-6.09%, crude fiber 78.16-84.35%[19]	 **Fig.9 Lemon grass[33]**
Mwiching Bwlai or ivy-rue or *Zanthoxylum limonella*	Varieties of constituents are present in the Zanthoxylum *limonella* such as aromatic compounds, alkaloids, terpene, sterols and aliphatic amides. Major compounds are limonene, α-pinene, 3-crene, terpinen-4-ol, β-pinene, α-pinene, sesquiterpenoids, γ-terpinene, α-terpinene, monoterpene hydrocarbons, dihydroalatamide[20]	Nutritional content of leaves is limited. ____	 **Fig.10 Mwiching bwlai[34]**

BENEFITS OF SPICES ON HEALTHY LIFE

In ancient times people were dependant on herbs and spices for their medicinal benefits. Over the last few decades researcher found that spices which are used in day-to-day life has health benefits and spices can prevent and resolved most of the health related issues. According to World Health Organization (WHO) survey, 70-80% of the world population depends on

modern medicine mainly on plant derived pharmaceutical medicine in their major health care. Moreover, 80% of population in developing Countries and up to 60% of the world's population depends directly on herbs and plants for their medical benefits ([30]). Spices can prevent and cure diseases, pain, many symptoms and infections which are given below on Table 5.

Table 5: Health benefits of leafy spices.[2,4,6,16,17,18,19,20,23,25,26,27,28,29]

Spices	Culinary Use and Other uses	Medicinl use
Curry leaf	Curry leaf elevate the flavour and aroma of the dishes like curries, chutneys, sambar, dal, rasam, poha and rice dishes etc.[4]	prevent hair fail and premature graying, skin infection, reduce weight, prevent diabetes, relives kidney pain and improve stomach function, used as herbal tonic[2]
Mexican coriander	Leaves are added in chutneys, soup, curry and stews to enhance the flavour[17]	Stomach ache, digestive ailments, abdominal pain, hypertension, constipation, diarrhoea, vaginal infection, flu, cold, fever, muscle pain, etc.([17]
Lemon grass leaves	Herbal tea, lemongrass is used in various food dishes to add lemon flavour[19]	Antibacterial activity, wounds cleaning ,enteric fever, oral hygiene, antioxidant activity, anti-diabetic, cardio protective, anticancer, anti-inflammatory, prevent and cure skin infection, sedative, etc.([19]
Tejpat	Dried leaf is a common ingredients in Indian cooking, used as essential oil, preparation of traditional medicines [16,23]	Antioxidant and antimicrobial activity, stimulant, reduce bad breath and body odour, carminative, prevent nausea and vomiting, improve immune system, astringent, treat anaemia and fever[16]
Mint	Fresh mint leaves is used to add flavour in fish, meat, soups, stews, cordials, sauces, employed in preparation of mouthwash and toothpaste, and pharmaceutical industries, flavouring beverages[6]	Mint can use to mitigate irritable bowel syndrome, heartburn, abdominal pains and cramps like symptoms and can relax the gastric discomforts, carminative, headaches, diuretic, antiseptic property, stimulants[6]
Fenugreek leaves	Fresh fenugreek leaves can be used as food additives and as a vegetable. Dried leaves are for flavouring and garnishing food items like dal and curries etc. Both leaves and seeds are used in various industries[2,28]	It bring down or control the blood sugar level and cholesterol level, fenugreek oil prevents the hair fall by providing moisture and strength to hair, prevent and cure various skin problems, antimicrobial properties, helps in obesity ,improves digestion and memory power[28]
Coriander leaves	Whole plant is used to boost the flavours & aroma to the curries and	Antioxidant activity, stimulant, used as a digestive aid, carminative,

	other food items, fresh leaves are used in preparation chutney, sauces, canned foods, pickles, soups, also used as a seasoning and garnishing. Both leaves and seeds are employed in various industries like pharmaceutical, cosmetic, perfume and food processing industries[6,29]	analgesic, antimicrobial activity, treat cold and flu, dietary fiber help to reduce Low Density Lipoprotein (LDL),treat Alzheimer's disease, antispasmodic, helps in obesity for losing weight[6,29]
Lemon leaves	Lemon leaves are used to add flavours and aroma to the food items, garnishing dishes, used as an essential oil and has high demand in pharmaceutical, food processing industries[26]	Antioxidant activity, prevent nausea and vomiting, antimicrobial property, etc.([26,27]
Basil	Dried leaves used as spices for flavour and aroma in different type cuisines across the world, consumed as tea.[18,25]	Antimicrobial, wound healing properties, hypoglycaemic effect, anti-inflammatory, boost immunity power, analgesic activity, anticancer, aroma therapies, treat mental stress and fatigue, improve digestion, prevent nausea and vomiting[18,25]
Mwiching Bwlai or ivy-rue or *Zanthoxylum limonella*	It used as a flavouring in various food items, also having a nice aroma, its leaves, bark and fruits are used as a traditional medicines, employed in various industries like pharmaceutical, food, perfume, traditional medicines, insects repellents[20]. Mostly used in Tripuri and Reang community of Tripura.	Treats dental caries, antioxidant activity, Antimicrobial, antiseptic, antiprotozoal, respiratory diseases, rheumatism, and used in treatment of stomach infection, anti-inflammatory, chest pain[20]

CONCLUSION

From the above review, it may be concluded that spices play an important role in our day-to-day life. Spices are not only used in cooking food items but they also possess potential health benefits and medicinal properties, due to the presence of various types of phytochemical and phytonutrients . Spices are primarily associated with enhancing the flavor and aroma in the food items and secondarily they can potentially prevent and cure diseases, pain, symptoms and infections such as Alzheimer's disease, cardiovascular diseases, respiratory diseases, skin infection, vaginal infection, abdominal pains etc.

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