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Review Article

Indian kitchen- A repository of medicines in a house

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ABSTRACT

Indian kitchen is store house of spices and food items. Spices are those substances which give elegance, flavour and taste to the food. India is the largest producer of spices due to the presence of various climatic conditions. The spices which are available in kitchen have medicinal importance in alternate systems of medicine, particularly in Ayurveda. Consider the case of curry leaves which are used as flavoring agent in preparation of food possess antidiabetic, hypolipidemic, antioxidant properties, antibacterial and antifungal activities. Mustard seeds have antimicrobial, antifungal and antioxidant activities. Chilli powder which is used in preparation of curries by Indians has the antimicrobial activity. The nutritive items which are widely used by Indians include jaggery, honey and ghee. Cow Ghee has nootropic effect when given as panchagavyaghrita. It also shows antiepileptic and anti allergic effects. Honey possesses antibacterial, antioxidant and anti-inflammatory activities. Most of the spices used in Indian kitchen are useful as medicaments in alternate systems of medicine like Ayurveda. They serve as simple home remedies for the management of various disorders and diseases. This work has aimed to make a review on Indian kitchen ingredients, their nutritional values and medicinal uses.

Keywords: Indian kitchen, Spices, Ayurvedic remedies, Drugs of alternate systems, Home remedies

INTRODUCTION

Kitchen in a residence /house is a room or a part of a room where cooking or preparation of food is carried out. Kitchen stores various edible items used in the preparation of food. The edible items stored in the kitchen may vary from place to place across the world depending on native food habits. In the Indian kitchen along with chief nutritive items, several spices are stored. They are used to add elegance and aroma to food items. Besides serving as colouring and flavouring agents, they also serve as medicaments in treating a variety of diseases and disorders. The word spice has come

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from the old French word "spice", to which Latin word "spec" is the root. The word species is also from the same root. Spices are substances which are being used by the people with special knowledge and interest for thousands of years to improve the quality of the food [1]. The plants which yield spices grow in different types of climate. India is the largest producer of species as it contains various climatic conditions. A spice may be a dried seed, fruit, root, bark or flower of a plant or herb. It is used to enhance the flavour and colour. Spices are used in Indian kitchen from the ancient time so that they fulfil the body requirements [2]. Spices are not only used as flavouring and colouring agents but also used in cosmetics and perfumes [1]. Spices are having both physiological and pharmacological activities, so they are called functional foods [1]. They keep the human body in a healthy condition and cure the diseases according to the Indian system of medicine called ayurveda. The medicinal value of particular spice depends upon the part of the plant used. Usage of specific plant part is recommended in Ayurveda for particular ailments [3]. These are demonstrated to have certain target functions in the body beyond basic nutritional requirements [2]. Indian kitchen also stores nutritive materials like honey and ghee which also have medicinal importance Ayurveda. Cow ghee is called as Ayurvedic gold in some kinds of literature. Some of the Spices which are widely used in Indian kitchen are Ajwain, Anise, Asafoetida, Bay leaves, Cardamom, Chilli, Cinnamon, Cloves, Coriander leaves, Coriander seeds, Cumin, Curry leaves, Fennel, Fenugreek, Garlic, Ginger, Honey, Jaggery, Kapok buds, Mint, Mustard seeds, Nigella saliva, Onion, Pepper, Sesame, Tamarind, Turmeric. This work aims to review the nutritional and medicinal benefits of traditional spices mostly used in Indian kitchen.

DESCRIPTION

1) **Ajwain**- Scientifically it is called as *Trachyspermum ammi*, belongs to the family *Apiaceae* [4]. It is preferably used in Indian kitchen in the preparation of flavouring pastries and bread-like samosa shells, parathas (flaky flatbreads) and rotis. It's also used as a seasoning for potato curries and as a tempering for dals and pakoras. These are considered as powerhouses with rich in protein, carbohydrates, fats and also contains oil, minerals and lots of *fibre* [4]. It also comprises of calcium, potassium, sodium, phosphorus, thiamine, iron, niacin.

2) **Anise**- Botanically it is known as *Pimpinella anisum* and belongs to the Apiaceae family [5]. In Indian cooking, Anise is known to enhance the meat flavour and is an essential spice while preparing biryani and other spicy items in the Indian subcontinent. It is used by confectioners instead of sweeteners. It blends well with the ingredients and imparts a sweetened flavour. It is used whole or as a powdered spice. This has low Saturated Fat, and very low cholesterol and sodium. It is also a good source of dietary fiber, vitamin-C, calcium, magnesium, potassium and a very good source of iron. It also comprises of Phosphorus, Zinc, Copper and Manganese [5].

3) **Asafoetida**- *Ferula asafetida* belongs to the family *Umbelliferae* [6]. In India Asafoetida is used in savoury dishes, often to add a more full flavour by mimicking the taste of onions, garlic, egg, and even meat. It's a staple ingredient in Indian cooking, commonly used along with turmeric in lentil dishes like dal, and a variety of vegetable dishes [6]. In general, asafoetida consists of iron, calcium, carbohydrate, dietary fiber, protein, magnesium, phosphorus, zinc, copper, manganese, riboflavin and niacin.

4) **Bay leaves**- Scientific name of Indian Bay leaf is *Cinnamomum tamala* belongs to the family *Lauraceae* [7]. This spice is most often used in rice dishes like biryani and as an ingredient in preparation of spicy products used in preparation of foods. These are a rich source of vitamin A, vitamin C, iron, potassium and magnesium, carbohydrates, protein, fat, fibre, folates, niacin, pyridoxine, riboflavin, sodium, copper, manganese, phosphorus, selenium, zinc.

5) **Cardamom**- It is scientifically known as *Elettaria cardamomum* which belongs to the family *Zingiberaceae* [8]. It's known as the queen of spices [8]. Cardamom's deeply intense flavour and scent complement both sweet and savoury dishes in a variety of cuisines. It will quickly overpower a dish if used too generously. These are a rich source of vitamin A, vitamin C, iron, potassium, calcium, and magnesium, carbohydrates, protein fat, fiber, folates, niacin, pyridoxine, riboflavin, sodium, copper, manganese, phosphorus, selenium, zinc.

6) **Chilli**- *Capsicum frutescent* is its scientific name and belongs to the family *Solanaceae* [9]. In nearly every Indian dish, you'll find chilli. Even if the dish isn't spicy, chilli is used as a flavour and maybe a pillar of all Indian preparation. Though it's going to appear as generic, there are various varieties [9]. On prime of this, there are multiple species

of chillies in India alone. These are a wealthy supply of antiophthalmic factor, vitamin C, iron, potassium, calcium and magnesium, carbohydrates, protein, fat, fiber, folates, niacin, pyridoxine, riboflavin, sodium, copper, manganese, phosphorus, selenium, zinc.

7) **Cinnamon-** It is scientifically known *as Cinnamomum zelanicum Blume* that belongs to the family *Lauraceae* [10]. Cinnamon could be a normally used spice in Indian Cuisine. Powdery cinnamon may be added to the curry during the cooking process. The cook may additionally intensify the flavor of the cooking oil by adding tiny bits of cinnamon. Cinnamon features a warm and sweet flavour and it is additionally preferred spice that is employed in desserts. It includes fat, potassium, carbohydrates, fiber, protein, vitamin A, calcium, iron, vitamin B_6, magnesium.

8) **Clove**- Scientifically it's called as *Syzygium aromaticum* and belongs to the family *Myrtaceae* [11]. Cloves form a vital part of various several dry masala powders utilized in Indian preparation, such as Garam Masala. They are used whole in many curries and additionally cooked with other whole spices (khada masala). It contains fat, sodium, carbohydrates, fiber, protein, calcium, iron, potassium.

9) **Coriander leaves**- In scientific terms, it is known as *Coriandrum sativum* and belongs to the family *Umbelliferae* [12]. They are usually employed in a variety of Asian and Thai dishes. Coriander leaves have a robust odour. They even have Aromatic green leaves that are mostly used to flavour and for garnishing food. Belonging to the similar family of Cilantro, the leaves, dried seeds and powder are widely employed in the Indian cuisine. It includes fat, sodium, carbohydrates, fiber, protein, calcium, iron, potassium.

10) **Coriander seeds**- In the Indian cuisine, the seeds are called Dhaniya and are an essential condiment in the spices. Carrying an aromatic flavour, the seeds are available both in dried seeds and grounded form [13]. Nutritionally it includes fat, sodium, carbohydrates, fiber, protein, calcium, iron, potassium.

11) **Cow ghee**- There are many reasons why ghee stands out as fat to use when cooking. For one, its casein and lactose-free, making it a great source of fat [14] for those with food allergies or on pale diets. But beyond that, ghee has a unique nutty taste that makes dishes more flavourful than butter does. It includes fat, cholesterol, vitamin-A.

12) **Cumin**- Scientifically it's called as *Cuminumcyminum* that belongs to the family *Umbelliferae* [15]. Cumin is employed often whole and in spice mixes to feature a characteristic smoky note to Indian dishes [15]. It was often known by its distinct ridged brown seeds and intense fragrance. It contains fat, sodium, potassium, carbohydrates, fiber, proteins, vitamin A, vitamin C, calcium, iron, vitamin B_6, magnesium.

13) **Curry leaves**- It's scientifically called is *Murraya koenigii* that belongs to the family *Rutaceae* [16]. They are aromatic herbs utilized in South Indian cooking. Curry leaves, that softens once steamed and are used to flavour rice, chutneys, soups, stews, and even dals. To bring out their flavours, it's recommended that curry leaves may be cooked in oil first. It has calcium, vitamin A, magnesium, iron, folate, riboflavin, carbohydrates, fat, protein, vitamin D, thiamine, vitamin B_6, zinc.

14) **Fennel**- It is scientifically known as *Foeniculum vulgare* and belongs to the family *Umbelliferae* [17]. Fennel is used extensively in Indian cooking. While it is mostly used in seed form, some dishes do call for the seeds to be roasted and powdered. In India, these are routinely chewed upon after meals to aid in digestion after a rich meal while it also acts as a herbal mouth freshener. They help to overcome gas, cramps, acid indigestions, and many other digestive tract maladies [17]. Nutritionally it is a source of sodium, potassium, carbohydrates, fiber, protein, vitamin A, calcium, vitamin C, iron, magnesium.

15) **Fenugreek**- Fenugreek, scientifically *Trigonella foenumgraecum* is an annual plant in the family *Fabaceae* [18]. Fenugreek seeds are one of the staple spices used in Indian cooking, with a sweet, nutty flavour reminiscent of maple syrup and burnt sugar. It can be incredibly bitter when eaten raw, but when cooked and combined with aromatics and spices, it transforms and gives a sweetness and depth of flavour to saucy dishes [18]. It contains fat, sodium, potassium, carbohydrates, fiber, protein, vitamin A, vitamin C, calcium, iron, vitamin B_6, magnesium.

16) **Garlic**- Its botanical name is *Allium sativum* and belongs to the family *Amaryllidaceae* [19].

Garlic plays a vital role in adding flavour to many Indian dishes and it takes ordinary dishes to next level. The aroma of roasted or fried garlic is irresistible. It adds overall taste and flavour to any non-vegetarian or even vegetarian dishes. It is an essential ingredient in dishes like biryani and chicken dishes. Garlic is enriched with Vitamin B_1, B_2, B_3, B_6, folate, Vitamin C, calcium, iron, magnesium, manganese, phosphorous, potassium, sodium and zinc[19].

17) **Ginger**- Its botanical name is *Zingiber officinale* and belongs to family *Zingiberaceae* [20]. Ginger is found everywhere in Indian cuisine. It is mostly used as spice in cooking. It is a terrific combination of flavour and goodness. It is used in pickles, chutneys, and vegetarian dishes. It is finely chopped or crushed into a paste for chicken and meat-based curries. It holds multiple vitamins like Vitamin B_3 and B_6, Iron, Potassium, Vitamin C, Magnesium, Phosphorus, Zinc, Folate, calcium [20].

18) **Honey**- Honey is a natural product formed from the nectar of flowers by honeybees (*Apis mellifera*), family *Apidae* [21]. Honey is one of the most valued natural products introduced to humankind since ancient time. Honey is one of the most commonly used food items in Indian kitchen. It is the best and oldest sweet product with several health benefits. It is used as an alternative for sugar. Used in cooking, baking and in desserts. It does not include protein, fat or fibre. It contains majorly sugar which includes fructose, glucose, maltose and sucrose [21]. Almost 64 calories are present in one tablespoon of honey. It contains potassium, iron and total carbohydrates.

19) **Jaggery**- Jaggery is a sugar-rich product and medication obtained by evaporation of sugarcane (*Saccharum officinarum L.*) belongs to Grasses family *Poaceae* [22]. Jaggery is a sweetener widely utilised in Indian cookery. It is a better alternative to refined sugar. Several sweet dishes are prepared by mixing jaggery. It may be utilised in the preparation of sweets like Pongal, kheer. A pinch of jaggery is added to spicy preparations like sambar, rasam and other gravies to boosts the flavour. It holds various nutrients like folate, calcium, iron, phosphorus, magnesium, selenium, and manganese [22]. It also contains carbohydrates, proteins, calories, sugar. It also includes vitamins like Vitamin B_{12}, B_6 and also choline, betaine. It also contains sodium and potassium.

20) **Kapok buds**- Its botanical name is *Ceiba pentandra* and belongs to family *Malvaceae* [23]. It is used in cooking to enhance the flavour and fragrance. It is highly aromatic. It is almost always fried in oil before using to release its full flavour. Kapok buds is an essential spice in biryani and other masala items subcontinent. These contain vitamins such as vitamin A, C and E. It also includes proteins, carbohydrates and fat along with ash, fiber, calcium and iron. It also contains sodium and potassium.

21) **Mint**- It's botanically termed as *Mentha piperita* that belongs to the family *Lamiaceae* [24]. Mint is employed as fresh leaves, paste or in dried type. In Indian cooking, it is widely utilized in chutneys, salads, sauces and tea. Mint is mostly added to biryanis, lassie and garnish for desserts. From summer beverages to Indian curries or chutneys mint is one culinary herb that adds an extra punch of freshness to everything you add it to. It is an incredible source of manganese, copper and vitamin C. It also consists of vitamins and minerals including vitamin- A, vitamin B-6, vitamin C, E, and K, beta carotene, folate and riboflavin and also the minerals such as calcium, iron, magnesium and manganese.

22) **Mustard seeds**- *Brassica nigra*, or black mustard belongs to family *Brassicaceae* is an annual plant grown for its black or dark brown seeds, which are ordinarily used as a spice [25]. In plenty of Indian dishes, they are used as a lot of a seasoning than a base flavour – they really perk up a lentil or rice dish once cooked in a little oil with curry leaves (a match made in heaven). For that reason, mustard seeds are great for healthy ingestion, after you wish to feature flavour without adding fat. The flavour of ground mustard develops when soaked in liquid to bring out the pungent compounds. It is ordinarily employed in spice rubs, salad dressings, soups, and to add an acidic component to cut through rich sauces like for macaroni and cheese. It majorly contains selenium and also rich in magnesium content. Besides, it also includes phosphorus, Iron, and Manganese. It also contains a Total Fat.

23) **Nigella saliva**- *Nigella saliva* (black caraway, also termed as black cumin, nigella, kalojeera, kalonji or kalanji) is an annual flowering plant in the family *Ranunculaceae* [26]. The dry-roasted nigella seeds add flavour to curries, vegetables and pulses. The black seeds style sort of a combination of onions, black pepper and oregano, and have

bitterness to them like mustard seeds. Nigella seeds are tiny black seeds that are huge on flavour and add spicery to a variety of dishes to Indian curries. It is composed of protein, fat, moisture, ash and the rest being total carbohydrate. The fat and ash content were thick than the mentioned in the literature.

24) **Onion**- It is scientifically referred to as *Allium cepa* that belongs to the family *Amaryllidaceae* [27]. Particularly in Indian cookery, where ever the creating of almost every savoury dish starts with onions. They may be chopped into cubes, cut thinly or made into a paste – it forms the basis of our curries, stir-fries, biryanis, fillings for dosas, samosas, parathas, you name it. Indians are bit spice fans. They love the style of fireside up their food and later up their ass. Onions are a nice match to the food giving a strong taste kick. They contain a flavonoid called quercetin. They are low in sodium, no fat content and high in Vitamin C. There is a massive source of dietary fibre and folic acid. Additionally, it holds calcium, iron, and have a high protein quality (ratio of mg amino acid/gram protein)

25) **Pepper**- Black pepper, scientifically referred to as *Piper nigrum* is a flowering vine belonging to the family *Piperaceae*, which was cultivated for its fruit [28]. In India black pepper is used as an ingredient in recipes to add flavour and spice to meats, fish, vegetables, salad dressings, soups, stir-fries, pasta, and more. You can also add a dash of black pepper to scrambled eggs, avocado toast, fruit, and dipping sauces for a spicy kick. It contains major vitamins including Vitamins A, Vitamin E, and Vitamin K along with minerals such as Calcium, Copper, Iron, Magnesium, Manganese, Phosphorus and Zinc.

26) **Sesame**- Sesame, scientifically *Sesamum indicum*, also called benne, erect annual plant of the family *Pedaliaceae*, grown since antiquity for its seeds, which are used as food and flavouring and from which a prized oil is extracted [29]. With a nutty crunch and sweet flavour, these seeds are a well-known ingredient used extensively in Indian cooking. They may be in various colours - black, white and brown, and are also used in extracting sesame oil. Sesame oil is usually used for tempering, as boosting flavour, lubricant and preservative in south Indian cuisine. Since sesame oil is nearly tasteless and odourless, it is an honest alternative for baking. They supply about 20% of the RDI for zinc in a 3-tablespoon (30-gram). Also, it contains several nutrients that are essential for immune system functioning such as zinc, selenium, copper, iron, vitamin B_6, and vitamin E.

27) **Tamarind**- Its scientific name is *Tamarindus indica* belonging to the family *Fabaceae* [30]. Tamarind pulp concentrate is popular as a flavouring in East Indian and Middle Eastern cuisines much like lemon juice is in Western culture. It's used to season full-flavoured foods such as chutneys, curry dishes and pickled fish. Additionally, tamarind is used to make a sweet syrup flavouring soft drinks. It also contains 6 grams of fibre, 3 grams of protein and 1 gram of fat. It supplies a total of 287 calories, almost all of which are from sugar. In fact, a single cup of tamarind contains 69 grams of carbs in the form of sugar, which is equivalent to 17.5 teaspoons of sugar.

28) **Turmeri**c- Turmeric is a flowering plant, *Curcuma longa* of the ginger family *Zingiberaceae*, the roots of which are used in cooking [31]. Usually, every Indian recipe will always have a common ingredient i.e. a pinch of turmeric. In India, turmeric is considered as a healer's spice. It is used to enhance the colour, aroma, and flavour of food in most regions of Southern Asia. A tablespoon of ground turmeric contains 29 calories, nearly a gram of protein, and 2 grams of fibre and 6 grams of carbohydrates. It also contains minerals such as manganese, phosphorus and potassium. Turmeric also contains magical nutrients.

CONCLUSION

To summarize, spices are heterogeneous collections of a wide variety of volatile and non-volatile staple dietary additives. All the spices have a wide variety of bio-functions and their additive and synergistic actions that protect the human body. India with its wide weather and geographical features naturally possesses a wide variety of spices. Historically, spices are part of the diet, having a holistic approach. They are directly responsible for providing the aroma, flavour, colour and taste to the food articles. Therefore, they are a part and parcel of every Indian kitchen. However, most of these Indian spices have also been ascribed with many therapeutic properties and actions in the traditional textbooks of ancient times. The Indian system of medicine called Ayurveda has laid special emphasis on the medicinal and therapeutic actions of these spices and described the same in detail in the various texts of Vedic period, which are several thousand years old. Based on such traditional knowledge base and folklore which has been passed on from generation to generation, many Indian spices have been a part of

regular household usage. Because they tend to have strong flavours and are used in small quantities. Spices tend to feature few calories to food, even though many spices, particularly those made from seeds; contain high parts of fat, protein and carbohydrate by weight. However, once employed in large quantity, spices may also contribute a considerable quantity of minerals and other micronutrients, including iron, magnesium, calcium and many others, to the diet. Spices can turn an ordinary meal to an extraordinary experience. Scientific analysis of the pharmacological and therapeutic actions of these individual spices through experimental and clinical studies has established. Many of these spices possess crucial therapeutic properties such as appetizer, digestive, carminative, analgesic, blood purifier, hepatoprotective, antipyretic, antidiabetic, hypolipidemic, antimicrobial, anti-inflammatory, antioxidant, etc. They have a diverse array of natural phytochemicals that have complementary and overlapping actions. The antioxidant activity of these dietary spices suggests that in addition to imparting flavour to the food, they possess potential health benefits by inhibiting the lipid peroxidation. As several metabolic diseases and age-related degenerative disorders are closely associated with oxidative processes in the body; the use of herbs and spices as a source of antioxidants to combat oxidation warrants further attention.

Table 1: Ingredients and their medicinal uses

S. No	INGREDIENTS	MEDICINAL USES
1.	Ajwain [32]	Antibacterial, Antiepileptic activity, Antifilarial, Antifungal, Antihelmenthic, Antinociceptive activity, Antioxidant, Antiviral activity
2.	Anise [33]	Anticonvulsant, Antifungal, Antioxidant, Antimicrobial, Antiviral
3.	Asafoetida [6]	Anticancer, Antidiabetic, Antihypercholestremic activity, Antioxidant, Gene expression, GI effects, Hepatoprotective, Hypotensive, Treat hypersensitivity reactions,Vasodilation, Women ailments
4.	Bay leaves [34]	Anti diabetic, Anti oxidant, HMG Co A reductase inhibitor, Hypolipidemic, Radical scavenging
5.	Cardamom [35]	Anti cancer, Anti fungal, Anti mutagenic, Antioxidant, Blood pressure lowering, Diuretic , Fibrinolysis enhancing, Gut modulatory, Sedative
6.	Chilli [9]	Anti microbial
7.	Cinnamon [36]	Anti inflammatory, Anti-cancer activity, Anti-diabetic, Antifungal and Antibacterial Activity, Antihypertensive and Vaso relaxant Effects
8.	Clove [37]	Antifungal properties, Anti-inflammatory activity, Antimicrobial activity, Antiviral activity, Immunomodulatory effects
9.	Coriander leaves [38]	Anti anxiety, Anti bacterial, Anti Hypertensive, Antioxidant, Disease modifying, Memory enhancing, Neuroprotective
10.	Coriander seeds [39]	Anti diabetic, Atherosclerotic, Cardio protective, Diuretic, Hypocholestrimic, Lowers BP, Sedative and hypnotic
11.	Cow Ghee [40]	Based on Lipid Composition, Protective effect against carcinogen induced mammary cancer
12.	Cumin [41]	Anti-diarrhoeal, Antimicrobial Property, Antioxidant Capacity and Cytotoxicity, Chemo preventive Effects, Enhancement of digestive enzymatic activity
13.	Curry leaves [42]	Anti bacterial, Anti diabetic, Anti fungal, Anti oxidant, Cytotoxic, Hypolipidemic
14.	Fennel [43]	Aids digestion, Anti atherogenic, Anti bacterial, Anti hirsutism, Anti inflammatory, Anti oxidant, Dysmenorrhoea, Hepato protective, Hypolipidemic, Increase oestrogen progesterone prolactin in female

Table 2: kitchen ingredients and their medicinal uses

S. No	INGREDIENTS	MEDICINAL USES
1.	Fenugreek [44]	Anti microbial, Antihypertensive, Antioxidant, Antiradical, Apoptosis, Dysmenorrhoea, Hair growth, Hepato protective, Hypocholestrimic, Renal protective
2.	Garlic [45]	Analgesic and anti-nociceptive activity, Antihypertensive, Anti-inflammatory, Antimycobacterial and Antibacterial activity, Anti-obesity, Antioxidants, Antiplatelet activity, Cancer chemo prevention, Cardiovascular benefits, Hepato protective, Immunomodulatory Effects
3.	Ginger [46]	Anti hypertensive activity, Anti microbial activity, Antifungal activity, Anti-oxidative stress effects, Anti-inflammatory effects, Anti-diabetic effects, Lipid lowering activity, Pain relief in primary dysmenorrhoea, Virucidal activity

4.	Honey [47]	Antibacterial, Anti-inflammatory and Anti-viral Agent, Antimicrobial Activity, Antioxidants, Apoptosis, Beneficial effects on body weight and blood lipids of diabetic patients, Wound healing properties
5.	Jaggery [22]	Cytoprotective and antioxidant activity
6.	Kapok buds [23]	Anti oxidant, Cytotoxic
7.	Mint [48]	Anti bacterial, Anti cancer, Anti fungal, Anti nociceptive, Anti spasmodic, Infantile colic, Neuralgia, Phytochemical, Radio protective
8.	Mustard seeds [49]	Antifungal Activity, Antimicrobial, Antioxidant
9.	Nigella saliva [50, 51, 52]	Antiatherogenic, Antibacterial activity, Antidepressant, Antidermatophyte activity, Antidiabetic Activity, Antifungal Activity, Antioxidant, Antipsoriatic activity and cytotoxicity, Antitumor activity, Bronchodilator, spasmolytic and calcium antagonist activities, Gastro protective activity, Hypoglycemic and Hypolipidemic Potential, Leishmanicidal & cytotoxic activities, Neuroprotective, On kidney damage, On Metabolic Syndrome in Menopausal Women
10.	Onion [53, 54]	Anti Cancer, Anti depressant, Anti diabetic, Anti microbial, Anti-Obesity, Antioxidant, Treatment of alopecia areata, Wound healing activity
11.	Pepper [55, 56]	Antibacterial activity, Antidepressant, Antidiarrhoeal effect, Anti-inflammatory & Antinociceptive, Antioxidant activity, Immunomodulatory and Anti-Cancer Activities, In Gastrointestinal Disorders, Lowers blood lipids, Treatment of airways disorders
12.	Sesame [57]	Antihypertensive, Antioxidative activity, Antinociceptive, Analgesic, Anti-pyretic and Anti-inflammatory activity,cardio protective, Hepato protective
13.	Tamarind [58]	Anthelmenthic, Anti-apoptotic effects, Anti-inflammatory & Analgesic activity, Antimicrobial Activity
14.	Turmeric [59]	Alzheimer's disease, Antibacterial activity, Antioxidant, anti-inflammatory, and antinociceptive, Cardio protective Chemo preventive activity, Eye diseases, Gastro protective, Neuroprotection, Osteoarthritis, Prevention of diabetic retinopathy

Fig 1. Ajwain (Trachyspermum ammi)

Fig 2. Anise (Pimpinella anisum)

Fig 3. Asafetida (Ferula asafoetida)

Fig 4. Bay leaves (cinnamomum tamala)

Fig 5. Cardamom (elettaria cardamomum)

Fig 6.Chilli (Capsicum frutescens)

Fig 7. Cinnamon (Cinnamomum zeylanicum)

Fig 8. Clove (syygium aromaticum)

Fig 9. Coriander leaves (corinadrum sativum)

Fig 10. Coriander seeds

Fig 11.Cow ghee

Fig 12. Cumin (cuminum cyminum)

Fig 13. Curry leaves (murraya koenigii)

Fig 14. Fennel (foeniculum vulgare)

Fig 15. Fenugreek (trigonella foenum graecum)

Fig 16. Garlic (allium sativum)

Fig 17. Ginger (Zingiber officinale)

Fig 18. Honey

Fig 19. Jaggery

Fig 20. Kapok buds (ceiba pentandra)

Fig 21. Mint (mentha)

Fig 22. Mustard seeds (brassica nigra)

Fig 23. Nigella sativa

Fig 24. Onion (allium cepa)

Fig 25. Pepper (piper nigrum)

Fig 26. Sesame (sesamum indicum)

Fig 27. Tamarind (tamarindus indica)

Fig 28. Turmeric (curcuma longa)

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