

MEDICINAL ASPECTS OF PLANTS USED AS SPICES AND CONDIMENTS -A REVIEW

KARUNAS. VERMA, YOGRAJ RAWTE and APARNA AWASTHI

Aeroallergens, Immunology and Angiosperm's Diversity Laboratory, Department of P.G. Studies and Research in Biological Science, R.D. University Jabalpur-01 (M.P.), India.
karunaverma@gmail.com/www.karunaverma.com

The ethnomedicinal application of the plant species used primarily as spices and condiments among the indigenous peoples of Jabalpur were examined. A total of 20 species were found to have varying applications in ethnobotany and ethnomedicine. The studies indicated that the indigenous people have also developed different methods for collecting, processing, using and conserving these valuable plants and/or their products. The contributions of this study towards the understanding, documentation and safeguarding of indigenous knowledge and use of plants are discussed.

Keywords : Condiments Plants; Indigenous knowledge.

Introduction

Indian spices are well-known all over the world for their taste and strong aromatic flavor. There are around 80 types of spices grown throughout of world but India alone produces about 50 types of them (Anonymous). The history of spice is almost as old as human civilization. It is a history of lands discovered, empires built and brought down, wars won and lost, treaties signed and flouted, flavours sought and offered and the rise and fall of different religious practices and beliefs. Spices were among the most valuable items of trade in ancient and medieval times.

Spices since antiquity are considered indispensable in the culinary art. They also emerged significant in healthcare. Their value as antimicrobials, antioxidants, antidiabetic, anti-inflammatory etc. is doubtless^{1,2}. They used the parts which are generally sold as spices or condiments these are not cultivated in this area. They administered them in the form of decoction, infusion, paste, oil or as raw material, decoction being the common form.

This publication describes the genetic resources of coriander (*Coriandrum sativum* L.) and discusses various aspects of the origin, history, use, breeding and agronomy of a species whose entire potential has not yet been fully recognized. Many interesting publications on the breeding and genetic resources of coriander that were published in the former Soviet Union have gone unnoticed in Western countries, a fact to which particular attention is drawn here. It is common complaint that the characterization of genebank material is insufficient³, and a systematic description of the variation of a cultivated

species is essential to all further research and breeding activities, and of great interest to growers and consumers too.

The main part of the book describes the variation. The potential toxicity of regularly consumed spices, whether as a condiment or a medicinal treatment, is an important consideration when studying the traditional use of the plants. The dietary inclusions of cinnamon, ginger, sahdaneh, turmeric, onions, etc. have been practiced for centuries. The present study was therefore designed to assess the cytotoxicity of four most common spices of parsnip (*Heracleum persicum* Desf. ex Fischer.), cinnamon (*Cinnamomum zeylanicum* Blume, Lauraceae), ginger (*Zingiber officinale* Rosc., Zingiberaceae) and sahdaneh (*Nigella arvensis* L., Ranunculaceae) using Brine Shrimp Lethality (BSL) assay. These four plants include parts of a common daily diet in Iran, and this will provide a rational basis for their use in phytomedicine as a positive health food supplement or with some precaution as food supplements. Furthermore diets rich in bioactive phytochemicals reduce the risk of degenerative disorders such as cancer, diabetes, cardiovascular disease and oxidative dysfunction^{4,6}.

Herbs and spices are used for cuisine specialties, as preservatives for the food supply and for special medications. Medicinal and aromatic plants are also of great importance, today this has been considered important to conserve natural resource of our country⁷.
Review of Literature - A spice is a dried seed, fruit, root, bark or vegetative material used in nutritionally insignificant amount as a food supplement for the reason

of flavoring. Spices are defined as "a strongly flavored or aromatic substance of vegetable origin, obtained from tropical plants, commonly used as a condiment". In ancient times, spices were as valuable as metal gold and as noteworthy as medicines and perfumes. No country in the world cultivates as a lot of kinds of spices as India with quality spices come from Kerala, an Indian state. Because of the varying climates in India-from tropical to subtropical, temperate-almost all spices are grown in this country. In almost all of the 28 states and seven union territories of India, at least one spice is grown in profusion. Spices and herbs are good not only for our taste buds but also for our health. The special quality and special flavour of Rajasthani spices are usually accredited to the favourable climatic conditions and natural methods being used here for ages. Rajasthan has the distinction of producing 17 of the total 60 varieties of Indian spices which are being regularly utilized for special desert cuisines most common of them is panchkuta⁸.

A total of 60 medicinal formulations from 56 plant species of spices were documented. These medicinal plants were used to treat various diseases and disorders, with the highest number of species being used for gastrointestinal problems, followed by fever and headache. Herbs were the primary source of medicinal plants (57% of the species), followed by trees (23%).

The proximate composition of three common food condiments - ginger (*Zingiber officinale*), garlic (*Allium sativum*) and locust bean (*Parkia biglobosa*) were investigated. The composition of the locust bean was determined before and after fermentation. The results obtained show that fermentation increases the moisture and oil contents of locust bean, but reduces the protein content⁹. The results obtained for the proximate composition of ginger and garlic are somewhat different from what we previously reported¹⁰.

Rhus coriaria Linn. (Anacardiaceae), commonly known as sumac, has been used as a spice, condiment, appetizer, and as a souring agent for centuries. A broad range of nutritionally and medicinally significant phytochemical components have been identified from various part of sumac such as tannins, flavonoids, anthocyanins, organic acids, flavonens, proteins, fiber, volatile oils, nitrates, and nitrites. The plant also possesses minerals which are beneficial in the treatment of different disorders and contribute to various biological processes. In traditional system of medicine, this plant has been used in the treatment of diarrhea, dysentery, ulcer, hemorrhoids, hemorrhage, wound healing, hematemesis, hemoptysis, leucorrhoea, sore throat, ophthalmia, conjunctivitis, diuresis, animal bites, poison, pain, and liver disease.

Traditional practitioners have also prescribed this plant as antimicrobial, abortifacient, and stomach tonic¹¹.

Turmeric is a popular spice derived from the root of *Curcuma longa* Linn, a member of the ginger family. The powder and its active principle, a group of curcuminoids, are widely used as : culinary spices, preservatives, food additives, cosmetics, and as oleoresin in food and pharmaceutical industries. In the last two decades, there has been considerable interest among the biomedical scientists to explore the possible therapeutic benefits of turmeric and its active principle, curcuminoids. A considerable amount of work has been carried out to explain its molecular, cellular, biochemical and pathological mechanisms to establish its potential as a therapeutic agent for many chronic diseases¹².

Turmeric cultivation in India occupies 60% of the total area intended for spices and condiments. It is not only an ancient but also a highly cultivated Asian spice and used in countries like India, China, Malaysia, Pakistan, Bangladesh, Indonesia, Taiwan, Haiti, Jamaica and El-Salvador. Traditionally turmeric is used in a variety ways for different diseases, due to its kaleidoscopic properties¹³.

Food condiments are substances mostly of plant origin which are used to add or improve flavour of food. The uses of several plants as spices or condiments amongst different ethnic groups in Nigeria have been reported¹⁴⁻¹⁷.

Spices have been recognized to have some medical properties due to antioxidant and antimicrobial action¹⁸. Many spices have been documented to possess antidiabetic, antiinflammatory, and antihypertensive potential¹⁹⁻²⁰. Only a small fraction of the many biochemicals found in plants are relevant for the quality of spiciness; many classes are hardly ever found in spices, as their taste is unpleasant or they are not safe at all²¹.

'Spice' and other 'herbal' products are often referred to as 'legal highs' or 'herbal highs' in reference to their legal status and purported natural herbal make-up²²⁻²³.

Ginger is known as Sunthi in Ayurveda and description of the plant appears in the old text like Charaka, Sushruta, Vagbhatta and Chakra-dutta. The use of drug is mentioned in form of Trikatu, a famous Ayurvedic remedy for the treatment of digestive disorders. In Ashtanga Hridaya, the plant has been used in Rasna Saptak Quath (a decoction based on seven medicinal herbs), and a traditional remedy for arthritis²⁴.

The Indian Institute of Spices Research, Calicut has played a phenomenal role in collecting and conserving the genetic resources of spices, which include cultivated, wild, hybrids and several endangered species. The national repository of spice germplasm maintained in *ex situ* and

in situ conservatories are enriched regularly by undertaking collection surveys in primary and secondary centres of origin. Some of the valuable collections in the germplasm are endangered species like *Piper barberi* and *P. arboretum*. *P. silentvalleyensis*, *P. sugandhi* and *P. nigrum* var. *hirtellosum* are three new taxa identified and reported. *Vanilla anadamanica*; *P. colubrinum*, a source of resistance against *Phytophthora*, Pollu beetle and *Radopholus similis*; multibranch types and natural kate resistant lines of cardamom; king cloves; putative wild types of ginger and high curcumin types of turmeric were also collected and conserved. The institute also conserve diverse strains of microorganisms associated with spices. Several information resources were developed pertaining to these germplasm collections and micro organisms associated with spices²⁵.

Conclusion

- In India, spices are important commercial crops from the point of view of both domestic consumption and export. Besides, huge quantities of spices are also being consumed within the country for flavouring foods and are also used in medicine pharmaceutical, perfumery, cosmetics and several other industries.
- The studies have however shown that apart from the use of these plants as spices and condiments, they have several other wide applications in the local treatment and management of many diseases.
- In deed, in many occasions, the study observed that the indigenous people value the plants more for their ethnomedicinal uses than for spicing foods.
- The use of preparations of *Xylopia aethiopica*, *Piper guineense*, *Piper nigrum* and *Murraya Koenigii* in post-partum treatment and restorative soup after childbirth is certainly of more value than as a mere seasoning of flavouring agent.
- The indigenous peoples of the study area have therefore developed various ways of harvesting, processing and administering preparations of these plants in the cure of the different ailments.
- Trade and commercial utilization of the plants, though informal, constitute dominant enterprise of the local people in area.
- Spices and condiments are plant products which are mostly used for seasoning, flavoring and thus enhancing the taste of foods, beverages and drugs.
- This work has shown that these food condiments while providing aroma and flavor and enhancing the taste of foods, also serve as sources of some essential nutrients which are naturally present in them.

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