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MEDICINAL PLANTS USED IN THE FORMATION OF KANJI: AN AYURVEDIC FERMENTATIVE PREPARATION

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Abstract: Medicinal plants play an important role in the health care system of the developing countries. World Health Organization (WHO) also support, put forward and promotes the inclusion of herbal drugs in national health care programs because such drugs which are prepared by the use of the medicinal plants, are easily available at a price within the reach of the common man and thus considered to be safer than modern synthetic drugs. Here an attempt is made to critically analyze the entire description related to their morphology, occurrence, synonyms, Ayurvedic properties, botanical descriptions, modern properties, therapeutic uses, part used and active constituents present in the particular parts of the medicinal plants (Drug ingredients) used in the manufacturing kanji. Kanji is an acidic fermentative dosage form mentioned in the Ayurvedic texts which is prepared by the process of fermentation for a specific duration by different preparations of the plant materials.

Key Words: Kanji, Medicinal Plant, Fermentation, Sandhana

Introduction: Medicinal plants may be defined as those plants that are commonly used in treating and preventing specific ailments and diseases. These plants are either 'wild plant species' those growing spontaneously in self maintaining populations in natural or semi-natural ecosystems and could exist independently of direct human actions or the contrasting 'Domesticated plant species' those that have arisen through human actions such as selection or breeding and depend on management for their existence^[1]. There are about 45000 plant species in India. Eastern Himalayas, Western Ghats and Andman and Nicobar Islands are the hot spot for medicinal plants. Officially documented plants with medicinal potential are 3000 but traditional practitioner use more than 6000. *Charaka Samhita* has mentioned about 341 plants while *Shushrut Samhita* have listed 760 medicinal plants^[2].

Ayurvedic literature speaks about the importance of the medicinal plants "nothing in the world exists, which does not have therapeutic utility". Taking this fact into consideration, *Ayurvedic* physicians have formulated single as well as compound drugs for the cure and prevention of various ailments^[3]. *Kanji* is a specific *Ayurvedic* preparation, which comes

under *Sandhana Kalpana*. In *Ayurveda*, *Sandhana* is a unique dosage form which is manufactured from the different parts of the medicinal plants and widely prescribed in different diseases due to its long shelf life, palatability, quick action and these medicaments have several advantages too, like better keeping quality, enhanced therapeutic properties, improvement in the efficacy of extraction of drug molecules from the herbs.

Medicinal Plants used for *Kanji* Preparation

- 1. *Sasthika Rice:*** *Sasthika* rice consists of dried fruit of *Oryza sativa*, an annual herb, cultivated throughout India. The seed is tightly covered by the layer of husk and is compressed from the side. Rice is used during the recovery from a disorder of the gastrointestinal tract and diarrhea^[4,5].
- 2. *Rajika (Rai):*** It is an annual herb with a height between 2-3 feet. Flowers are yellowish with red– brownish wrinkled seeds. *Rajika* is an interspecies hybrid of the species *B. juncea* and *B. napus*^[6]. It is mainly cultivated in Hariyana, Bihar, U.P. and west Bengal state of India. Seed oil also shown anti microbial activity against gram positive bacteria^[7].
- 3. *Kulattha:*** *Kulattha* is an annual branched, sub-erect or twining herb which is cultivated

all over India. The *kulattha* seeds contain crude protein in high quantity which is less or more equivalent to soybean, winged bean and gram.

The green leaves of *kulattha* may be used in vitamin C deficiency due to presence of ascorbic acid [8]. The seed soaked in water or boiled to form a decoction which is beneficial to the persons suffering from kidney stones. It has been also shown in a study that there would be a marked decrease in ant calcifying activity with maturation of seeds or post harvest storage for six months [9].

4. Haridra: *Haridra*, is an erect perennial herb extensively cultivated in all parts of the country. It is the dried root tubers of *Curcuma longa*. Tubers are branched, brownish white and scaly externally and bright yellow inside. The maturation period of the rhizome is about 9-10 months [10].

The rhizome and roots are regarded as aromatic, promote digestion, stomachic, carminative, antipyretics, aphrodisiac and laxative they are also used in chronic rheumatic, itching, skin diseases, asthmas and hiccough [11,12].

5. Bamboo: The plant is indigenous to the tropics, southern sub tropics and Asia. Greenish yellow round culms exceeding 3 meters in height with shiny & dark green leaves. In the oriental medicine the plant is used for asthma, cough and the disorder of the gall bladder [10].

6. Jeerak: *Jeerak* consists of ripe fruits of *Cuminum cyminum*, a glabrous annual herb,

30-90 cm height flowers very small, stalk in compound umbels and mostly cultivated in the plains [10]. The essential oil present in cumin seeds prevent butter from deterioration and increase its acid value. It also shows ant hydrolytic effect and is better in respect than the conventional antioxidants like butylated hydroxytoluene [13]. The seeds showed antifertility property [14].

7. Mansha: The annual plant grows from 30 to 60 cm height. It is heavily branched but not twinning. The plant probably originated in India and is found, cultivated worldwide today. It is indicated as a supportive treatment for inability to urinate and also for infectious urinary tract [15].

8. Sunthi: The rhizome of Zingier is widely cultivated in India. Zingier is susceptible to sunburn, particularly during hot dry climate. Therefore, semi- shade conditions are ideal for its growth [16, 17].

9. Hinge (Asafoetida): *hinge* is the dried latex, resin or gum obtained from the taproots or rootstocks of several species of *Ferula*. Asafoetida has high moisture contents and often develops mould on the surface when packed in the polythene bags [12]. The resin is collected after making incisions at the upper part of tap root of the plant, just before the flowering. Some researches show that Asafoetida is one of the important ingredients in compound formulations as appetizer, digestive and antirheumatic property and some species of *ferula* also reported with ant fertility activity.

Table-1: Showing the detailed descriptions of the medicinal plants used in the preparation of Kanji

Medicinal Plants	Botanical Names	Family	Synonyms	Parts Used	Important Constituents
Sasthika Rice	<i>Oryza sativa</i>	Poaceae	<i>Tandulam, Dhanya, Chawal</i>	Fruits	Carbohydrate, Lactins, Vitamins B- group
Rajika/ Rai	<i>Brassica juncea</i>	Cruciferae	<i>Asuri, Tikshnagandha,</i>	Seeds	Sinalbin, Lecithine
Kulattha	<i>Dolichos biflorus</i>	Papilionaceae	<i>Kulathi</i>	Pulse	Amino acids, Lectin
Haridra	<i>Curcuma longa</i>	Zinziberaceae	<i>Rajani, Kanchani, Gouri, Yoshitapriya</i>	Rhizome	Essential oil and Curcumin
Bamboo	<i>Bambusa arundinaceae</i>	Gramnae	<i>Tvaksara, Shataparva</i>	Leaves	Phenol, Flavonoids
Jeerak	<i>Cuminum cyminum</i>	Umbelliferae	<i>Aajaji, Jeera</i>	Fruits	Cumaldehyde
Mansha	<i>Phaseolus mungo</i>	Papilionacea	<i>Udada</i>	Pulse	1,3,7-Trimethylxanthine
Sunthi	<i>Zingiber officinale</i>	Zingiberaceae	<i>Nagar, Viswabhaishjya, Shringaber</i>	Rhizome	Zingiberol, Oleo-resin
Hingu	<i>Ferula narthex</i>	Umbellifereae (apiaceae)	<i>Sahastravedhi, Ramatha, Jatuka</i>	Niryas	Essential oil, gum and resin

Conclusion: The basic active ingredients used for treating various ailments are accumulated in the different parts of plants such as leaves, root, bark, seeds and sometimes the fruits. The extraction of these active ingredients requires different methods such as infusion, decoction,

chewing of the plant part. In this paper a detailed description of different research works (as mentioned in the references) related to these medicinal plants has been concluded which may be supportive for the inclusive knowledge concerning to these plants.

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