ORIGINAL RESEARCH PAPER

Botany

ETHNOMEDICINAL USES OF FLOWERS ENQUIRED FROM HERBAL VENDORS IN NORTH MAHARASHTRA (MAHARASHTRA: INDIA)

KEY WORDS: Herbal Vendors, North Maharashtra, Flowers, Ethnomedicine.

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ABSTRACT

The present authors interviewed herbal vendors from Jalgaon, Dhule, Nandurbar, Buldhana and Nasik districts from North Maharashtra region (India). The herbal vendors conduct their traditional business in public places and were interviewed during 2009-2014. Enquiry was made regarding common plant name, part used, disease treated, type of recipes and doses, method of administration, etc. during botanical outings. This communication includes only flowers employed to combat human diseases. As many 37 angiospermic species pertaining to 37 genera and 27 families are documented. The dicotyledonous taxa contribute for major share (35 species) in traditional medicaments. Many of these taxa (22 species) are generally found under cultivation, while others form wild sources. The results obtained are discussed in the light of recent literary sources.

INTRODUCTION

We would never be able even to conjecture how exactly our ancients discovered medicinal virtues of plants. Discovery of medicine, no doubt, was struck when mankind suffered from some kind of afflictions either physical or mental. His thinking would have started with some beliefs or fear. These, later on, would have developed into folk-medicine which eventually standardized into some traditional systems of medicine in modern period. Man also endeavored to use synthetic medicine. But again he turned to 'green-medicine' and presently it occupied a central-stage in human healthcare. Tyler (1986) once remarked that 'green-wave' is likely to gain momentum in the years to come. The present scenario in medicine reiterates his standpoint.

Because of a steady increase in herbal medicine, we are in search of different sources. Ethnomedicine or folk-medicine has gained much importance in recent times. Research workers in medicine are devoting their time and energy to study the sources from primitive societies, rural folks or ancient cults. In India, we observe some people selling botanicals traditionally in public places. The literary resume indicates that they have been largely overlooked. Their wisdom has perforce been remained intact. The present authors made a headway to tap down their time-tested medicolore. Floral source is generally neglected by research workers. We are presently communicating floral drugs as gleaned from herbal vendors which carry on their traditional family business in public places in some districts of North Maharashtra.

METHODOLOGY

The herbal vendors conduct their traditional business of selling drugs as public places such as, bus-stands, railway stations, courts, Govt. offices, temple, places of pilgrims, national highways or cross-roads and on weekly bazar days. Few districts *viz.*, Jalgaon, Dhule, Nandurbar, Buldhana and Nasik of North Maharashtra region was surveyed (Map-I & II). The botanicals of plants were purchased. The herbal vendors were interviewed for enquiry w.r.t. common plant name, part used, type of recipes, name of disease, method of administration, duration and doses. Plants have been identified using relevant floras (Cooke, 1958; Sharma *et al.*, 1996; Singh *et al.*, 2000, 2001; Patil, 2003; Kshirsagar and Patil, 2008; Lakshminarsimhan and Sharma, 1991, etc.) The data occurred is tabulated in the Table-I.

Map-I: State of Maharashtra In India

Map-II: Districts Surveyed In Maharashtra.

RESULTS AND DISCUSSION

Flowers constitute an integral part of Indian culture since remote times. They are thought symbols of beauty and used in decorations and various social *vis-à-vis* religious ceremonies, festivals, rites and rituals (Pawar and Patil, 2008). However, their biological (nutritive and medicinal) properties are mostly neglected. The flowers have generally short life-span and shelf-life and hence used locally in certain areas and societies. Plants are cultivated for decorative flowers but not

generally for their biological virtues of flowers. They are hardly sold in native markets and thus escape from notice by mankind. Flowers have also therefore not caught fancy satisfactorily of research workers.

Our inventory to tap down traditional medicolore of the herbal vendors in the study area revealed as many 37 species of which flowers are employed to treat different human sufferings. These pertain to 37 genera and 27 families of angiosperms. Of these, only two species of grass family find place in medicaments. Majority of them (35 species, 35 genera and 26 families) are dicotyledons. It is worth to note that a number of species (22) are found generally under cultivation for various human needs, whereas some ones (13 species) are wild in nature. Only two species are either wild or cultigen. They can be categorized on habital ground as: trees (13), shrubs (10), herbs (10) and climbers (04). It appears that arborescent species have major share in floral utility in ethnomedicine. The Table-I indicates that as many as 30 different human diseases are advised by the herbal vendors using flowers. These are in the form of paste, decoction, juice, extract, powder and oil. Paste and powder are, however, commonly advised. The method of administration vary as per the disease to be treated.

Flowers have multifarious medicinal significance. Some flowers are used rather rarely as vegetable (Jain, 1991; Zha *et al.*, 1996). There are few exclusive reports on flowers used as ethnomedicine in India (Banerjee, 1996; Jain, 1991). Most medicinally-active compounds are found in edible flowers e.g. carotenoids, flavonoids anthocyanins, phenolic acids, etc. (Mlcek and Rop, 2011; Navaro-Gonzalez *et al.*, 2014). Flower colouration is a manifestation of occurrence of flavonoids and carotenoids. These phytochemicals afford antioxidant power to the flowers (Chen *et al.*, 2018). Some flowers e.g. marigold contain lutein and flavonoids which possess anti-inflammatory, free radical-scavenging and cytotoxic effects to combat cancerous cells (Moliner *et al.*, 2018; Yasukawa and Kasahara, 2013). Anothocyanin exhibit similar properties. Carotenoids help minimize peril of vitamin-A deficiency and also beneficial in cancer, cataracts and cardiovascular diseases (Abdel-Aal *et al.*, 2013). Thus if flowers, are consumed, they help promote many properties *viz.*, anticancer, anti-obesity, anti-diabetic, antioxidant, etc. (Petrova *et al.*, 2016; Kaisoon *et al.*, 2012). The flowering species enumerated in Table-I provide fair chances of research if investigated on scientific lines. The floral sources should not be underrated. Being natural sources, they are strong candidature for safe health and different pharmacological benefits.

Table I: Flowers Employed Treating Human Diseases

Sr. No.	Plant Name & Family	Local Name	Habit	Wild (W)/ Cultivated (C)	Dicot/ Monocot/ Gymno/ Pterido	Use- Reports			
						Recipe	Disease	Dose	Period
1.	***Barleria prionitis* L. ssp. *prionitis*** Acanthaceae	Kate Koranti	Shrub	C	D	Paste	Body swelling	One spoonful	Till cure
2.	***Borassus flabellifer* L.** Arecaceae	Tad	Tree	C	D	Decoction	Swelling of spleen	One teaspoon twice a day	Fifteen days
3.	***Butea monosperma* (Lamk.) Taub.** Fabaceae	Palas	Tree	W	D	Decoction	Diabetes	One teaspoon twice a day	Till cure
4.	***Capparis zeylanica* L.** Capparidaceae	Waghati	Tree	W	D	Paste	Wound	--	Four days
5.	***Cascabella thevetia* (L.) Lippold** Apocynaceae	Bitti	Tree	C	D	Paste	i) Head-ache ii) Scorpion sting	Half cup	Fifteen nights
6.	***Cassia auriculata* L.** Caesalpiniaceae	Awali	Shrub	W	D	Paste Juice	i) Redness of eyes ii) Vomiting	One to two drops twice a day Two teaspoons	Seven days One day
7.	***Chrysanthemum indicum* L.** Asteraceae	Shevanti	Herb	C	D	Decoction	Piles	Half Cup twice a day	One month
8.	***Crossandra infundibuliformis* (L.) Nees** Acanthaceae	Aboli	Herb	C	D	Decoction	Painful menstruation	Cup of decoction	Seven days
9.	***Cymbopogon martinii* (Roxb.) Wats** Poaceae	Khavi	Herb	W	D	Paste	Cut to control bleeding	One spoonful	Till cure
10.	***Elephantopus scaber* L.** Asteraceae	Hastipata	Herb	W	D	Powder	Diabetes	One glass twice a day	Till cure
11.	***Eugenia corymbosa* Lamk.** Myrtaceae	Ran lavang	Tree	W	D	Paste	Tooth-ache	Daily morning	One month

12.	***Hibiscus rosa-sinensis* L.** Malvaceae	Jaswand	Shrub	C	D	Powder Paste	i) Leucorrhoea ii) Burning micturition iii) Bleeding	Twice a day Twice a day	Seven days Seven days
13.	***Hyssopus officinalis* L.** Lamiaceae	Ayurwiki	Herb	W	D	Decoction	Respiratory tract	Twice a day	One month
14.	***Imperata cylindrica* (L.) Raeuschel.** Poaceae	Dabh	Herb	W	D	Decoction	Urinary tract	30 ml	Fifteen nights
15.	***Ipomoea aquatica* Forssk.** Covolvulaceae	Nodishaka	Climber	W	D	Juice	Fever	One teaspoon at night	Three to four nights
16.	***Jasminum auriculatum* Vahl** Oleaceae	Jui	Climber	W	D	Paste	Burning sensation of eyes	At night	Four to five nights
17.	***Jasminum officinale* L. var. *grandiflora* (L.) Bailey** Oleaceae	Chameli	Climber	W	D	Juice Oil	Head-ache	Tow-three drops	Till cure
18.	***Luffa echinata* Roxb.** Cucurbitaceae	Devdali	Climber	W	D	Powder	Safe delivery	One cup twice a day	One month
19.	***Madhuca longifolia* (Koen.) Macbr. var. *latifolia* (Roxb.) Chev.** Sapaotaceae	Mahu	Tree	W	D	Paste	Hydrocele	At night	Eight to ten days
20. *	***Melia azedarach* L.** Meliaceae	Limba	Tree	C	D	Paste	Skin problems	Twice a day	Seven days
21. *	***Mimusops elengi* L.** Sapotaceae	Bakul	Tree	C	D	Juice	Breathing problems	Five to ten drops	One month at morning
22.	***Moringa oleifera* Lam.** Moringaceae	Shevaga	Tree	C	D	Oil	Ear-ache	Three to four drops twice a day	Three days
23.	***Nelumbo nucifera* Gaertn.** Nelumbonaceae	Kamal	Herb	C, W	D	Paste	Fever	One spoonful	Four nights
24.	***Nerium indicum* Mill.** Apocynaceae	Kanher	Shrub	C	D	Paste	Piles	Twice a day	One month
25.	***Plumeria rubra* L.** Apocynaceae	Khair champa	Tree	C	D	Decoction	Sun-stroke	Four times	Till cure
26.	***Rhododendron arboreum* Sm.** Ericaceae	Pittapapra	Tree	W	D	Juice	Refresh human body	--	Till cure
27.	***Ricinus communis* L.** Euphorbiaceae	Erandi	Tree	W, C	D	Flower	To cause abortion	At night	Seven nights
28.	***Rosa canina* L.** Rosaceae	Gulab	Shrub	C	D	Decoction	Leucorrhoea	15-20 ml twice a day	Seven days
29.	***Saraca asoca* (Roxb.) Willd.** Caesalpiniaceae	Ashok	Tree	W, C	D	Extract	Bleeding in dysentery	One teaspoon	Seven nights
30.	***Sesbania grandiflora* (L.) Poir.** Fabaceae	Agasta	Tree	C	D	Decoction	Night blindness	Half cup twice a day	Seven days
31.	***Solanum virginianum* L.** Solanaceae	Bhuiringani	Climber	W	D	Powder	Cough	One teaspoon twice a day	Seven days
32.	***Sphaeranthus indicus* L.** Asteraceae	Mundi	Climber	W	D	Decoction	Heart problem	15 ml daily at night	Forty-five days
33.	***Tabernaemontana divaricata* (L.) R. Br.** Apocynaceae	Ananta	Shrub	C	D	Paste	Burning sensation of eyes	One spoonful	Till cure
34.	***Terminalia catappa* L.** Combretaceae	Badam	Tree	W	D	Powder	Piles	One teaspoon twice a day	Seven days
35.	***Urena lobata* L.** Malvaceae	Van bhendi	Herb	W	D	Decoction	Throat infection	Twice a day	Three days
36.	***Viola odorata* L.** Violaceae	--	Herb	W	D	Powder	Constipation	2-4 gm consumed at morning	Till cure
37.	***Woodfordia fruticosa* (L.) Kurz.** Lythraceae	Dhayati	Shrub	W	D	Powder, Extract	Teeth complaints Irregular urination	Two teaspoons twice a day	Daily morning Ten days

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