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ETHNOMEDICINAL PLANTS AND THEIR UTILIZATION BY VILLAGERS IN KADEGAON TAHSIL OF SANGLI DISTRICT IN MAHARASHTRA (INDIA)

Jadhav Ramesh Rangrao

Department of Botany, M.B.S.K. Kanya Mahavidyalaya, Kadegaon, Dist.-Sangli – 415304 (M.S.) India.

ABSTRACT: The present investigation deals with the ethnomedicinal plants of Kadegaon tahsil of Sangli district, in Maharashtra. India is very rich in ethnobotanical information, about 80% of the Indian population lives in villages. The Kadegaon town is connected with 56 adjoining villages rich with ethnomedicinal plants. The traditional knowledge of medicinal plants in the village people is very ideal source for exploring bioactive compounds of therapeutic importance in phytochemical research. The indigenous knowledge of the village dwellers, the herbal medicine practitioners and other traditional healers and the native plants used for medicinal value were collected through questionnaire and personal interviewed during field trips. The study revealed some unknown medical uses of medicinal plants. The scientific name, family, vernacular name (Marathi), part used and traditional practice of 20 plants are discussed here for the treatment of various ailments.

KEYWORDS: Ethnomedicinal plants, Kadegaon Tahsil, Traditional practice,

I. INTRODUCTION

The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. Traditional medicine and ethnobotanical information play an important role in scientific research, particularly when the literature and field work data have been properly evaluated (Awadh, *et al.*, 2004). It is estimated that 70 to 80% of the people worldwide rely chiefly on traditional health care system and largely on herbal medicines (Farnsworth *et al.*, 1985; Farnsworth and Soejarto, 1991; Pei Shengji, 2002; Shanley and Luz, 2003). According to some earlier workers (Chopra *et al.*, 1956; Jain, 1965; Kritkar and Basu, 1999; Nadkarni, 2001) plants have been used in traditional medicine for several thousand years (Abu-Rabia, 2005).

Kadegaon Tahsil is situated in Sangli district in Maharashtra. KadegaonTahsil is about 70 km. away from Sangli and 20 km away from Karad. Kadegaon is on Karad - Vijapur road. It is located at 17.15° N latitude and 74.15° E longitude. It has an average elevation of 271 metres (889 feet). Submountain ranges of Western ghats of Maharashtra are located in KadegaonTahsil. Sagareshwar Wild Life Sanctuary, Dongarai Valley and Sonsol ghats are richest with ethnomedicinal as well as other plant species. Krishna river canal flows through KadegaonTahsil. Shivajinagar, Hingangaon, Tadsar, Chinchani and Nerli lake sides are rich with different plant species. Yerala and Nandani river flow through Tahsil. The length of the Kadegaon Tahsil is 55 km² while its breadth is 35 km² approx. The Kadegaon Tahsil has a moderate climate with hot summer, a cold winter and a short monsoon season. The black and red soil, bright sunlight are the two important natural resources abundantly available in this region which are responsible for the development of the vegetation having variable ethnomedicinal plants. The adjoining area is exposed to fluctuating environmental conditions. The Western ghat comparatively experiences more rainfall during rainy season but Eastern region appears to be dry. It shows the variations in flora in different season. The Kadegaon town is connected 56 adjoining villages rich with ethnomedicinal plants.

In this paper, there are 20 plants described. It clearly shows the importance of medicinal plants in the treatment of various ailments. The present review profile-gives information about scientific name, family, common name, the parts of the plant used and ethnomedicinal uses of plants.



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II. MATERIALS AND METHODS

A. Study area: KadegaonTahsil is situated in Sangli district in Maharashtra. It has an average elevation of 271 meters (889 feet). The length of the KadegaonTahsil is 30 km² while its breadth is 20 km² approx. The Kadegaon Tahsil has a moderate climate with hot summer, a cold winter & a short monsoon season. During summer the maximum temperature is around 41°C & minimum is around 25 °C & in winter maximum temperature is 23 °C minimum 12 °C. The black & red soil, bright sunlight are the two important natural resources abundantly available in this region which are responsible for the development of the vegetation having variable medicinal properties. During the present work we have gone in the various villages. The survey work among the Kadegaon Tahsil were conducted in the villages during July 2009 to January 2011. During the survey, first hand information on the medicinal uses of the plants was gathered from local people & vaidayas.

B. Collection of Information:

The information on ethnomedicinal uses of plants was obtained through direct field interviews with knowledgeable people of the villages & traditional healers. The data regarding names of plant parts used & their method of preparation & mode of administration of various remedies were also noted down. The medicinal value of each plant was enumerated in the following pattern: a) Botanical name, b) Family, c) Vernacular name in Marathi d) Parts used & e) ethnomedicinal uses

C. Identification

The plant materials were identified with the help of standard local floras (Flora of Bombay Presidency), Preliminary identification was done by examining fresh plants products from the field with the help of villagers. Few respondents were more informative & co-operative. They have shown fresh plants in the habitat, which was useful for the final identification. The identification of plant materials was confirmed with the help of published data.

III. RESULTS AND DISCUSSION

In the present investigation 20 medicinal plants are used for the treatment of various ailments. A total of 20 plant species belonging to 17 families have been recorded in the present study. However, plants like *Aloe barbadensis*, *Acorus calamus*, *Caesalpinia bonducella*, *Dodonaea viscosa*, *Calotropis procera*, *Evolvulus alsinoides*, *Datura metal*, *Erythrina indica*, *Emblica officinalis*, *Euphorbia hirta*, *Foeniculum vulgare*, *Ficus bengalensis*, *Ficus recemosa*, *Gloriosa superba*, *Gymnema sylvestre*, *Helicteres isora*, *Holarrhena antidysenterica*, *Hemidesmus indicus*, *Hibiscus rosa-sinensis*, *Kalanchoe pinnata* used by the people in the area. The usage of plant part leaves, flower, fruits, seeds, latex, bark, stem, rhizome used for various ailments. From the data, it is clear that for various remedies fresh leaf materials is used followed by seeds and fruits. However, plant parts like rhizome were less frequently used by the people in the area. Informations gathered during this study are in agreement with the previous reports (Jain and Patole, 2001; Ignacimuthu et al., 2006; Modak et al, 2007; Ramya et al, 2008).

In the present investigation 20 medicinal plants are used for the treatment of various diseases like cure piles, fever, cough and cold, leucorrhoea, preventing hair loss, remove burns, skin diseases, cure muscular pains, diabetes, jaundice, chest congestion and bronchitis, cure boils and wounds, cure blood sugar level, ringworms skin disease, toothache, hypertension also. 20 plants species belonging to 19 families are reported. The utility lies through their leaves, flower, fruits, seeds, latex, bark, stem, rhizome. These are taken internally or applied externally in the form of infusion, decoction, paste or powder. Most of the plants used in medicines are single or either mixed with other ingredients. Medicinal plants studied are enumerated arranged alphabetically with their botanical name followed by families, local name, plant parts used & ethnomedicinal uses. Some important medicinal plants needs immediate cultivation should be encouraged through which their extinction can be prevented & local village people may also get low-cost their disease.

Enumeration of the data are:

1. *Aloe barbadensis* Mill.

Family : Liliaceae
Local name : Korphad
Distribution : Common on waste places
Habit : Perennial shrub

1. 50 gms of mucilaginous juice obtained from leaf- pulp mixed with a little amount of sugar are given twice daily for a week on leucorrhoea.
2. The juice or paste of the leaf, when added to germinated *Trigonella foenum-graceum* seeds, is helpful in preventing hair loss.



3. The leaf itself is used for skin diseases and as cosmetic to remove wrinkles and remedy burns.
4. The juice of the roasted leaf is given for cold, cough and fever.

2. *Acorus calamus* Linn

Family : Araceae
Local name : Vekhand
Distribution : Rare in Marshy places of some villages
Habit : Annual herb
Plant parts used : Rhizome

Ethnomedicinal uses:

1. A piece of rhizome is tied on the neck of the victim to ward off the evil spirits.
2. Roots of the plant are macerated in the form of paste and applied to the chest of the patient suffering from chest congestion and bronchitis.

3. *Caesalpinia bonducella* (L.) Roxb.

Family : Caesalpinaceae
Local name : Sagargota
Distribution : Common on waste places
Habit : Shrub
Plant parts used : Leaves, Seed

Ethnomedicinal uses:

1. Crushed ten leaves and made into a paste and given to the patient once daily for 7 days to cure blood sugar level.
2. Oil is extracted from the seeds and smear the oil to cure boils and wounds.

4. *Calotropis procera* R. Br.

Family : Asclepiadaceae
Local name : Rui
Distribution : Common on waste places
Habit : Shrub
Plant parts used : Entire plant and Latex

Ethnomedicinal uses:

1. Latex is used as an ointment to remove the thorn from the body.
2. A paste made from the entire plant of this species is mixed with sugar and applied over dog bites.
3. The latex is useful in the treatment of ringworms and skin disease.
4. Leaf is coated with coconut oil and warmed on hot iron (Tawa) and tied as bandage on joints to cure pain.

5. *Dodonaea viscosa* Linn.

Family : Spindaceae
Local name : Bandukichapala
Distribution : Cultivated in gardens as hedge plant
Habit : Shrub
Plant parts used : Leaves

Ethnomedicinal uses:

1. Leaf paste mixed with turmeric and plastered for bone fracture.

6. *Datura metal* Linn.

Family : Solanaceae
Local name : Dhotra
Distribution : Common on waste places
Habit : Herb
Plant parts used : Leaves, Fruits

Ethnomedicinal uses:

1. Leaves and fruits ground into paste and massaged gently on painful parts it cure muscular pains.

7. *Evolvulus alsinoides* Linn

Family : Convolvulaceae
Local name : Shankaveli
Distribution : Irrigated agricultural fields
Habit : Herb
Plant parts used : Whole plant

**Ethnomedicinal uses:**

1. Plant paste with mustard oil in 3:1 ratio is used on head for good hair growth.

8. *Erythrina indica* Lamk.

Family : Papilionaceae
Local name : Pangira
Distribution : Common on waste places
Habit : Shrub
Plant parts used : Bark, flowers

Ethnomedicinal uses:

1. Bark is pounded and its paste is applied on wound to heal up within 2-3 days.
2. Flowers are used to cure epidemic skin diseases.

9. *Emblica officinalis* Gaerth.

Family : Euphorbiaceae
Local name : Awala
Distribution : Cultivated in gardens
Habit : Tree
Plant part us : Fruits and Seeds

Ethnomedicinal uses:

1. Teaspoonful powder of fruits and seeds is taken once or twice a day for a diabetic person to reduce sugar level.

10. *Euphorbia hirta* Linn.

Family : Euphorbiaceae
Local name : Dudhi
Distribution : Common on waste places
Habit : Annual herb
Part used : Entire plant

Ethnomedicinal uses:

1. Latex of the entire plant applied externally till cure of burns and lip cracks.

11. *Foeniculum vulgare* Mill.

Family : Umbelliferae
Local name : Badishep
Distribution : Cultivated in agricultural fields for seeds
Habit : Herb
Plant parts used : Seeds

Ethnomedicinal uses:

1. About 20 gms seeds are soaked over- night in a glass of water. The resulting extract is taken to an empty stomach to cure constipation.
2. 50 gms of powder of fruits is taken with one glass of water once a day in the morning for 7 to 8 days after menses as contraceptive.

12. *Ficus bengalensis* Linn.

Family : Moraceae
Local name : Vad
Distribution : Planted along road sides
Habit : Tree
Part used : Roots, Latex

Ethnomedicinal uses:

1. Root bark paste is applied on scalp for good growth of hairs.
2. The latex of this plant is used to treat tooth decay, rheumatism and skin diseases.
3. Tender prop root decoction given in two spoonful twice a day for three months to cure piles.

13. *Ficus recemosa* Linn.

Family : Moraceae
Local name : Umber
Distribution : Planted along road sides
Habit : Tree
Part used : Young stem

**Ethnomedicinal uses:**

1. The astringent stem are used as a toothbrush to cure toothache.

14. *Gloriosa superba* Linn.

Family : Liliaceae
Local name : Kallavi
Distribution : Rare in sanctuary during rainy season
Habit : Climber
Plant parts used : Leaves

Ethnomedicinal uses:

1. Leafpaste applied externally on effected areas till cure mumps.

15. *Gymnema sylvestre* R.Br.

Family : Asclepiadaceae
Local name : Vakhandi
Distribution : Rare in Sagareshwar sanctuary
Habit : Climber
Plant parts used : Leaves

Ethnomedicinal uses:

1. Dried leaves fine powder with one cup of milk is given twice a day after food for 120 days to treat diabetes.

16. *Helicteres isora* Linn.

Family : Sterculiaceae
Local name : Murudsheng
Distribution : Rare in Sagareshwar sanctuary
Habit : Shrub
Plant parts used : Fruit

Ethnomedicinal uses:

1. Extract of fruit is useful as colic stomachic for children.

17. *Holarrhena antidysenterica* Wall.

Family : Apocynaceae
Local name : Kuda
Distribution : Rare in Sagareshwar sanctuary
Habit : Tree
Plant parts used : Stem Bark

Ethnomedicinal uses:

1. One teaspoonful of juice or powder of stem bark is given twice a day on dysentery.

18. *Hemidesmus indicus* R. Br.

Family : Asclepiadaceae
Local name : Anantmul
Distribution : Rare in Sagareshwar sanctuary
Habit : Climber
Part used : Roots

Ethnomedicinal uses:

1. The decoction of root is taken in empty stomach in sexual debility and also in general weakness for about two months.
2. Roots are also used as a tonic and a diuretic, and for the treatment of hypertension.

19. *Hibiscus rosa-sinensis* Linn.

Family : Malvaceae
Local name : Jasvand
Distribution : Cultivated in gardens
Habit : Shrub
Plant parts used : Flower



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Ethnomedicinal uses:

1. Fresh flowers boil in hair oil and paste is applied to make hair black and to promote healthy growth of hairs.
2. Mucilaginous paste of petals is applied to make hairs black.

20. *Kalanchoe pinnata* Pers.

Family	: Crassulaceae
Local name	: Panphuti
Distribution	: Cultivated in gardens
Habit	: Herb
Plant parts used	: Leaves

Ethnomedicinal uses:

1. One leaf is chewed and taken along with a glass of water in empty stomach for few days in the early morning for remedy of any urinary problems.
2. Fresh leaf is taken orally daily for 15 to 20 days for kidney stone, gall-bladder stones.

IV. CONCLUSION

Present investigation indicates that Kadegaon Tahsil is blessed with rich diversity of medicinal plants. The study reveals that resource persons are elderly people and the middle generation. Therefore, documentation of traditional knowledge is the only way out to preserve the plant resources to this area. Further, medical approach for the treatment of various ailments is a practical, less cost-effective and biological safe.

This study shows that knowledge and usage of herbal medicine for the treatment of various ailments among peoples is still a major part of their life and culture. The results of the present study provide evidence that medicinal plants continue to play an important role in the healthcare system of people in Kadegaon Tahsil in Sangli district.

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AUTHOR'S BIOGRAPHY

Jadhav Ramesh Rangrao

Department of Botany, M.B.S.K. Kanya Mahavidyalaya, Kadegaon, Dist.-Sangli – 415304 (M.S.) India.