



Ornamental Medicinal Plants for Primary Health Care

Dr. Alpna Johri

J. D. B. Govt. Girls College, Kota-324001, India

e-mail-alpnajohri@gmail.com

ABSTRACT

Plants which are decorative and have showy flowers deserve to be classified as “Ornamental flowering plants”. We are intimately associated with colourful, beautiful and fragrant flowers on all festival occasions. Many ornamental plants of different species are commonly cultivated in gardens, parks and houses. They are soul of garden and make us feel fresh and healthy. They are very fascinating and also have some economic importance besides being ornamental in nature. These ornamental plants are easily available to everyone for safe and cheap treatment if they are grown at their houses. A survey was conducted to know the awareness about these medicinal ornamental plants, and to suggest them for safer cheaper treatment of these easily available plants.

Key words: Aesthetic, Conservation, Healthcare, Medicinal, Ornamental, Traditional.

INTRODUCTION

Plants grown in gardens and parks for their aesthetic value, provide diverse and quantifiable range of benefits that improve our quality of life. They also contribute to clean the air and provide habitat to wildlife. Any particular type of plant is being grown both for ornamental qualities in the garden and for utilitarian purposes in other settings eg. lavender (*Lavendula spp.*) is typically grown as an ornamental plant in gardens, but may also be grown as a crop production of lavender oil (http://en.wikipedia.org/wiki/Ornamental_plant). Many herbal remedies and healthcare preparations are described in ancient text such as Vedas. Indoor ornamental plants are also beneficial for us as newly constructed buildings are sealed tightly for air conditioning, deteriorate indoor air quality. This may cause serious health problems. Some indoor ornamental plants like *Aglonemasp*, *Chrysanthemum sp*, *Dracaena sp* and *Sansevieriasp*, etc. can improve air quality by removing pollutants from the air. They absorb harmful substance like benzene, carbon monoxide and formaldehyde etc. and provide pollution free houses and offices. Many ornamental plants are used in the treatment of different ailments like rheumatism, cough, malaria, skin diseases, dysentery, fever etc. in natural way. Ornamental plants really do have the power to soothe a troubled mind. Working in garden is good for our physical and mental health. Some of them are also used for aromatherapy because the fragrant oil rejuvenate the skin, lift the mood of people who undergo emotional depression and relieve stress through fragrance. When we participate in pleasurable activities, our brain releases endorphin. These endorphins are feel good hormones that have power to remove physical and emotional pain. They travel down the spine, and then throughout our body, sending a feeling of wellbeing as they go (www.sandrwebcounselling.com/). Herbal medicines are in great demand in the developed as well as developing countries for primary health care because of their wide biological and medicinal activities, higher safety margins and lesser costs (Cragg et al., 1997 and Padma, 2005).

MATERIAL AND METHODS

Study site - The study is restricted to Kota district of Haroti region of Rajasthan. Rajasthan is the largest state of India located in north-western part of India. It lies between 23°3' to 30°12' north latitude and 69°30' to 78°17' east longitude. Its total area is 3,42,239 sq.km. The topography of the state is dominated by the Aravalli range of hills. This state is immensely rich in medicinal plant diversity. Haroti region has a well identified and famous cultural identity in Rajasthan, of which Kota is prime centre. Kota is situated in south-eastern part of Rajasthan. It lies between 23°45' to 25°53' N latitude and 75°9' to 77°26' E longitude. Its total area is 24156.6 Sq.Kms. (Sharma, 2002). It is well watered drained by rivers flowing in north and north-eastern directions. There are hills in the south, north and eastern portions of the district. The land of Kota district slope gently from south to north and is drained by Chambal and its tributaries-Kalisindh, Parwati, Parwan and Andheri. The fertile land of Kota is well watered, rich in flora and fauna. Soil of Haroti region is generally medium black which is good for agriculture.

Survey- To attain the goal of present study, people from 50 houses of different colonies of Kota district were asked to fill the enclosed questionnaire containing 25 questions in form and collected data. Questionnaire, survey, observation and field visit were carried out to elicit information on the medicinal uses of different ornamental plants. For data collection, I have selected interview schedule. During interview certain standard and specific questions were asked by the interviewer.

The purpose of this study was to encourage people for the use of easily available medicinal ornamental plants as they are commonly grown in many gardens, houses etc. and secondly less work has been done on these beautiful plants.

RESULT AND DISCUSSION

Over exploitation and some other reasons are responsible for the disappearance of many medicinal plants. Efforts have been made to conserve these plants for their survival and to avoid their complete disappearance. The primary collectors harvest raw materials like fruits, tubers etc. of commercially important medicinal plants and keep in direct sunlight or rains, in sub-standard godowns, having dust, fungus, termites and rats etc., which adversely impact raw material quality as well as medicinal properties. (Mishra and Kotwal, 2010). Therefore we should grow medicinal ornamental plants in our own garden or nearby area. Many people grow wild plants as an ornamental like *Asparagus racemosus*, *Crinum defixum*, *Aloe vera*, *Mimosa pudica*, *Lawsoniainermis* etc. which have been used as medicine since hundreds of years. The project emphasized on search of ornamental medicinal plants, enlist their medicinal value to make local people aware about medicinal diversity of area and use of ayurvedic drugs, as allopathic drugs show adverse effect on body and also very costly.

During my survey I asked specific questions by the 50 interviewer and I have observed that-

100% people know that plants improve our quality of life.

98% people love nature, they like to live near parks and gardens.

76% people know that ornamental plants also have medicinal value.

40% people prefer herbal medicine, 8% prefer modern medicine while 52% like combination of both.

30% people like herbal medicines only for external use while 60% take orally and 10% people do not use these herbal medicines.

78% people know that herbal medicines are safer and have no side effects.

22% people grow herbal medicinal plants in their gardens, 52% people purchase and 18% people gather them.

16% people consume these herbal plants after preparation and 18% use these plants as such, 58% people use as such or after preparation.

36% people consult books, 16% consult news paper, 20% consult T.V., 30% consult any one and only 14% people consult medical practitioner for the preparation of herbal medicines.

People of Kota city are using herbal medicines for different ailments as –pimples, skin problems, hair loss, obesity, insomnia, kidney stone, blood purification, cough and cold, asthma, nose bleeding, tonsils, ear-ache, rheumatism, constipation, stomach pain, headache, backache, epilepsy, diabetes, high B.P.

6% people do not want to disclose the information about the disease for which they use herbal medicines.

48% people know about the cultural practices for the medicinal plants which they use, while 52% people do not know about this.

42% people maintain these plants themselves without taking any help while 48% people need help of any other person.

88% people would like to grow medicinal ornamental plants in their garden.

People like to grow ornamental medicinal plants in their garden because according to 38% people they are decorative as well as useful for health, according to 24% they can be used for disease, according to 12% these are easily available in our gardens when required, according to 6% they are safe, according to 2% fresh material is available, according to 2% they are pleasant to eyes and 2% people have no time to grow and maintain any plant.

68% people know that these plants are source of income while 24% people do not know about this.

Only 56% people know about aromatherapy.

16% people are allergic to any particular plant while 84% were not allergic to any plant.

People love gardens of Kota due to many reasons as they give pleasure, fresh air, morning walk, clean area, rich biodiversity etc.

The sum of the percentage for some observations is not 100% because many of the people surveyed indicated they used more than one method or some people did not answer the questions or they do not use medicinal plants.

Table : List of ornamental medicinal plants used by people of Kota district of Rajasthan.

S.no.	Botanical name	Common name	Family	Part Used	Use
1	<i>Asparagus racemosus</i> Willd.	Satavari	Liliaceae	Root	Lactation, Leucorrhoea
2	<i>Anacyclus pyrethrum</i> (L.) Link.	Akarkara	Asteraceae	Whole plant	Dental problem
3	<i>Alstoniascholaris</i> (L.) R.Br.	Saptarni	Apocynaceae	Bark	Strength to pregnant women
4	<i>Aloe vera</i> (L.) Burm.	Gwarpatha	Liliaceae	Leaf	Rheumatism, back bone pain, obesity, stomach
5	<i>Basella alba</i> L.	Poi	Basellaceae	Leaf	Constipation, Thyroid
6	<i>Bauhinia purpurea</i> L.	Kopnar	Caesalpinioideae	Bark	Tumour
7	<i>Bauhinia variegata</i> L.	Kachnar	Caesalpinioideae	Bark	Blood purifier
8	<i>Brassica oleracea</i> L. var. <i>acephala</i> DC.	Kale/ornamental cabbage	Brassicaceae	Leaf	Rich in Vitamins used as salad for nourishment
9	<i>Brayophyllumpinnatum</i> (Lam.) Oken	Patharchatta	Crassulaceae	Leaf	Sores, kidney stones
10	<i>Cassia fistula</i> L.	Amaltas	Caesalpinioideae	Fruit	Constipation
11	<i>Catharanthus roseus</i> (L.) G. Don	Sadabahar	Apocynaceae	Flower, leaf	Obesity, diabetes
12	<i>Centella asiatica</i> (L.) Urban	Barhmi	Apiaceae	Leaf	For good memory
13	<i>Cissus quadrangularis</i> L.	Hadjod	Vitaceae	Stem	Bone fracture
14	<i>Coleus amboinicus</i> Lour.	Azwainpatta	Lamiaceae	Leaf	Cough and cold
15	<i>Crinum asiaticum</i> L.	Sudarshan	Amaryllidaceae	Leaf	Earache
16	<i>Dalbergiasisso</i> Roxb.	Sisam	Fabaceae	Leaf	Mouth ulcer, Uterine problems, nose bleeding
17	<i>Euphorbia tithymaloides</i> L.	Nagdaun	Euphorbiaceae	Leaf	Warts and Tumour
18	<i>Ficus benghalensis</i> L.	Bargad	Moraceae	Bark	Stop vomiting
19	<i>Hibiscus rosasinensis</i> L.	Gurhal	Malvaceae	Flower	Gray and long hair, conditioner, dandruff,
20	<i>Jasminum arborescence</i> Roxb.	Chameli	Oleaceae	Leaf	Mouth ulcer
21	<i>J. sambac</i> (L.) Ait.	Mogra	Oleaceae	Leaf, flower	Cancer

22	<i>Lagerstroemia speciosa (L.) Pers.</i>	Jarul	Lythraceae	Fruit	Mental problems, Insomnia
23	<i>Lawsoniainermis L.</i>	Menhadi	Lythraceae	Leaf	Gray hair, foot burn, wound healing
24	<i>Murrayakoenigii Spreng.</i>	Meethaneem	Rutaceae	Leaf	Diabetes ,Indigestion
25	<i>Nyctanthusarbortristis L.</i>	Ratrani	Solanaceae	Leaf	Constipation, Joint pain
26	<i>OcimumbasilicumL.</i>	Marwa	Lamiaceae	Seed	Mouth ulcer, acidity.
27	<i>Ocimum sanctum Linn.</i>	Tulsi	Lamiaceae	Leaf	Cough, cold, throat pain
28	<i>OcimumcanumSims.</i>	Bantulsi	Lamiaceae	Leaf	Cough ,cancer
29	<i>Polyalthelongifolia(Sonner.) Thw.</i>	Ashok	Anonaceae	Bark	Blood pressure
30	<i>PlumbagozeylanicaL.</i>	Chitrak	Plumbaginaceae	Twig	Appetizer
31	<i>PunicagranatumLinn</i>	Anar	Lythraceae	Fruit	Indigestion
32	<i>Rosa indica Linn.</i>	Gulab	Rosaceae	Flower	Skin, eyes, digestion, mouth ulcer
33	<i>Tagetuserecta L.</i>	Genda	Asteraceae	Flower, leaf	Warts , cough& cold, nose bleeding,
34	<i>Thevatiaperuviana(Pers.)Schum</i>	Pilikaner	Apocynaceae	Fruit	Tumour
35	<i>Tinosporacordifolia (Thunb.)Miers</i>	Giloy	Menispermaceae	Tender leaf and twig	Tonic,viral fever

Although these enlisted plants are used in many ways in different parts of our country but this table is showing plants used by some local people living in Kota district .Only few(8%) people prefer only modern medicine because they are not aware to herbal medicines or due to immediate effect of modern medicines . Many respondents indicated that they preferred herbal medicine to modern medicine because herbs are safer and cause less harmful effects. More than 50% people purchase these herbs from market but some persons collect them. We should avoid collection of plants for medicinal purpose if plant is infected with any disease, insects and pests. There are many poisonous plants they may look similar to edible medicinal plants. Possibility of adulteration may be there in dried parts of plants if we purchase them from market so we should use medicinal plants in fresh form. People know that how to take the herbal medicines.They consult books,newspaper,T.V. or with any person.Only 14% people consult medical practitioner. Some people acquire and use one herb differently .Most of the people take interest in growing these plants,they know the cultural practices and maintenance of these plants.They know that ornamental plants are decorative as well as useful for our health.68% people know that these plants are source of income.56% people know about aromatherapy.

We should encourage people for the medicinal use of ornamental plants .The most important thing is that when we identify medicinal plant, we must be hundred percent sure that the plants we are going to eat is known to be edible.

People use ornamental plants in the preparation of skin tonic, conditioner etc.but 16% people have an allergic reaction to any plant so it is advised that never use any plant without any advice or testing it.

Many workers reported adverse effect of medicinal plants. All herbal products are prone to be contaminated when combined with herbicide, pesticide and heavy metals. In sensitive individuals allergic reactions to any natural product can be observed. Allergic reactions to the pot marigold are possible but rare (Edward and Gilman,1999).

It was found that 35 plant species are used by local people of Kota city for curing various ailments and people commonly use most of them for curing various seasonal diseases like cough and cold, skin diseases, hair problems, rheumatism, indigestion, constipation, obesity etc.These traditional uses of medicinal plants are providing clues to new areas of research.

Many people in Kota are growing *Aloe verain* their garden as ornamental plant and using it for various problems like rheumatism, obesity, skin

and hair treatment, stomach disorder etc.

We should grow ornamental medicinal plants in our garden or our nearby gardens and we should take care them ourselves. Ornamental plants and working with them make people feel more optimistic.

In 12th Century Macer wrote - merely looking at the marigold plant would improves the eyesight and lightens the mood (www.theflowerexpert.com/content/growingflowers/...../marigold).

Medicinal plants should be grown in controlled conditions because the soil , climate and growing environment play important role in the purity of Ayurvedic drugs . It was observed that there were significant differences between in the molecular compounds in the plants taken from different places. They have considered “Involuntary adulteration’ in the preparation of Ayurvedic medicines due to use of plant species which have the same or similar names but are essentially different constitutently (Rai and singh,2012). With ever growing commercialization in the field of herbal medicines, there has been an instant demand for quality controlof herbal drugs.Use of herbal pesticides on plants will be better than chemicals.

Many plants are wild in some places but growing as ornamental in other places. We can grow some wild plants as ornamental in our garden and parks if they are useful for our health. We can make them beautiful with just a bit of creativity like proper caring, watering, pruning and putting fertilizers regularly etc. We should grow native wild plants as ornamental. In India *Lawsoniainermis* is replaced by other hedge plants which are wild in other places and *Lawsonia* is now becoming wild in our country but it is very useful plant.

Many indoor plants (*Hedera helix*, *Ficusbenjamina*, *Chlorophytumcomosum* ,*Raphisexcelsa* etc.) also cleanse air, we should keep those plants in our houses, offices etc to improve indoor air quality (Wolverton and Wolverton, 1993) .

We should always consult an Ayurvedic medical practitioner before taking herbal drugs because in absence of proper guidance people take overdose of these drugs or they use herbal plants along with allopathic treatment which may cause adverse effects. During this survey I found that a woman lost too much weight after regular use of *Aloe vera* juice and she was feeling weakness then I advised to stop that treatment for obesity. We should know the proper amount of plant extract, time period and duration of treatment etc.Herbs work in an individual way within each body.Some herbs work very quickly and they are taken for a short time while other herbs yield best results when they are taken for longer period.Recommended doses should not be exceeded.

Due to rapid deforestation and urbanization medicinal plants has significantly reduced. This is our great responsibility to conserve and revitalize the traditional believes.

During this survey I observed that an ornamental plant *Calatropisgigantea*(L.)W.T.Aitonwas very commonly found in many houses.When I asked people about this plant, their answers were quite interesting. Somebody said that –It is good to keep in house while other said that - God lives in this plant, another said that somehow plant developed in our house but I did not pull out as advised by someone.This shows that people are very religious minded and we can save endangered plants in the name of religion because every plant have some medicinal value.We have to advertise to protect the particular plant.

CONCLUSION

- Present study reveals that the people of Kota use the ornamental plants not only for aesthetic values or decoration of their houses, gardens and parks but they use them for medicinal purpose also.
- Survey indicate that people of Kota are knowledgeable on various medicinal uses of ornamental plants.People are growing some wild plants as an ornamental with proper care in their houses due to their medicinal value.
- Some of the herbs are used significantly more (*Aloe vera*,) and some are used inless amount(*Alstoniascolaris*),and not commonly used.
- Not only rural /tribal people are helping for biodiversity conservation but people in cities also help to conserve plants.
- Religion can be powerful force for conservation. Conservation projects should be recommended for youth.
- Proper chemical analysis of these ornamental medicinal plants, their varieties and hybrids is recommended.
- With ever growing commercialization in the field of herbal medicines, there is a demand for quality control of herbal drugs.
- We should always consult a medical practitioner before using any herbal plant.
- We should grow these medicinal plants in controlled conditions and should be used in fresh form for better results.We should always use herbal pesticides in our gardens for medicinal plants.

Out of 35 medicinally ornamental plants, 2 plants were found to be used against diabetes, 3 against constipation, 3 against cough and cold, 3 against stomach disorder,3 against female related problems,3 for mouth ulcer, 2 for brain,,3 for tumour,1 for nose bleeding,1 for fracture,1 for blood pressure,1 for blood purification,1 for ear ache,1 for dental problem ,2 for cancer ,1 to remove stone from kidney ,1 for nourishment . One plant can be used in more than one problem eg. *Aloe vera* is used for rheumatism, obesity, skin and hair problems etc. According to Sutton and Orr (1991) multiple interviewers can be beneficial to a study because it allows for a variety of interviewing techniques and reduces the possibility that the results are biased by a principle interviewer’s way of questioning.

Survey on medicinal ornamental plants indicate that people of Kota know the importance of plants in their life and using them for primary healthcare but very few know that ornamental plants also have medicinal value.

As primary collectors harvests the raw materials of poor quality and the harvested raw materials are kept in worst conditions, such unhygienic plants affect human health so we should try to produce safe and high quality medicines to ensure human wellbeing. Possibility of adulteration may be there in dried parts of plants if we purchase them from market so it will be better to take these plants fresh rather dried. With ever growing commercialization in the field of herbal medicines, there is a demand for quality control of herbal drugs.

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