



Traditional medicinal uses of *Hibiscus rosa-sinensis*

V.M. Jadhav*, R.M. Thorat¹, V.J. Kadam¹ and N. S. Sathe²

*¹Department of Quality Assurance, Bharati Vidyapeeth's College of Pharmacy, Sector 08, CBD Belapur, Navi-Mumbai – 400614, India, ²Y M T Ayurvedic Medical College, Kharghar, Navi -Mumbai

Received on 03-04-2009; Accepted on: 29-06-2009

ABSTRACT

Medicinal and Aromatic Plants (MAP_s) are the ingredients of herbal drugs, herbal preparations, and herbal medicinal products, besides traditional/ complementary medicines, house hold remedies and nutraceuticals. Over 100 million women world wide are currently using hormonal contraceptives. *Hibiscus rosa-sinensis* with these drugs, fertility can be suppressed at will, for as long as desired, with almost 100% confidence and complete return of fertility on discontinuation. The efficacy, convenience, low cost and overall safety of oral contraceptives (OC_s) has allowed women to decide if and when they will become pregnant and to plan their activities. This article highlights some of the traditional medicinal uses, chemical composition, therapeutic evaluation of *Hibiscus rosa-sinensis*.

Keywords: Traditional medicinal uses, chemical composition, therapeutic evaluation, therapeutic claims of *Hibiscus rosa-sinensis*

INTRODUCTION

The herb *Hibiscus rosa-sinensis* Linn (Malvaceae) is a glabrous shrub widely cultivated in the tropics as an ornamental plant and has several forms with varying colours of flowers . In medicine , however the red flowered variety is preferred¹ .

The leaves and flowers are observed to be promoters of hair growth and aid in healing of ulcers^{2,3,4} . Flowers have been found to be effective in the treatment of arterial hypertension⁵ and to have significant antifertility effect^{6,7} .

According to traditional texts it is well accepted that the leaves and flowers of *Hibiscus rosa-sinensis* have hair growth promoting^{2,8} and antigreying properties. Moreover, in India the herbal products in the market intended for hair growth include the extract of various parts of *Hibiscus rosa-sinensis*¹.

TRADITIONAL MEDICINAL USES :

Table shows that traditional medicinal uses of *Hibiscus rosa-sinensis*

Sr.No.	Place	Parts	Activity
1.	Bangladesh	Decoction of flowers	Regulation of menstrual cycle ⁹
2.	China	Hot water extract of flowers & bark	Emmenagogue ¹⁰⁻¹²
3.	Cook Islands	Hot water extract of flowers & leaves	Ailing infants, Gonorrhea ¹³
4.	East Indies	I. Hot water extract of flowers. II. Leaf Juice + <i>Vernonia Cinerea</i>	I. Regulate menstruation produce abortion ¹¹ II. To stimulate expulsion of afterbirth ¹¹
5.	Fiji	Leaf Juice	Digestion , Diarrhea ¹⁴
6.	French Guiana	Hot extract of flowers	Grippe ¹⁵
7.	Ghana	Peeled Twig	Chewstick ¹⁶
8.	Guadeloupe	Hot extract of flowers	Sodorific , Antitussive ¹⁷
9.	Guam	Leaves	To Promote draining of abscesses ¹⁸
10.	Haiti	Decoction of flowers & leaves	Flu & cough, stomach pain, Eye problems ¹⁹
11.	Hawaii	Flowers	Lactation ²⁰
12.	India	Hot water extract of stems & flowers	Abortion ²⁰ , Antifertility ²¹ , Contraceptive ²² , Diuretic ²³ , Menorrhagia, bronchitis ²⁴ , Emmenagogue ²⁵ , Demulcent ²⁶ , Cough ²⁷ , Abortifacient ²⁸
13.	Indonesia	Juice of leaves & flowers	Menstruation, Abortion ²⁹ , Emmenagogue ³⁰ , Women in labor ²⁹
14.	Japan	Decoction of leaves	Antidiarrheal ³¹
15.	Kuwait	Flowers	Aphrodisiac ³²
16.	Malaysia	Hot water extract of roots & flowers	Fever, Expectorant ¹¹ , Emmenagogue ³³
17.	Mexico	Infusion of Barks & leaves	Dysentery ³⁴
18.	Nepal	Hot water extract of roots	Cough ³⁵
19.	New Britain	Hot extract of flowers	Menstruation ³⁶
20.	New Caledonia	Decoction of flowers	Abortifacient ³⁶
21.	Northern Ireland	Water extract of flowers	To induce labor ³⁷
22.	Peru	Hot Water extract of flowers	Contraceptive, Emmenagogue ³⁸
23.	Philippines	Hot water extract of flowers	Bronchial Catarrh ¹² , Emmollients ³⁹ , Cancerous, Swellings ⁴⁰
24.	Trinidad	Decoction of flowers	Amenorrhoea ^{41,42}
25.	Vanuata	Decoction of stems & barks	Menorrhagia ⁴³
26.	Vietnam	Infusion of flowers	Dysmenorrhoea ⁴⁴ , Abortive ⁴⁵

*Corresponding author.

Dr. (Mrs.) Varsha M. Jadhav
HOD and Professor
Bharati Vidyapeeth's College of Pharmacy,
Sector 8, CBD Belapur, Navi Mumbai.
Tel.: + 91-(022) 27722919, 09869046618
Telefax: +91-(022) 27722919
E-mail:
drvmjadhav_bvcp@rediffmail.com

CHEMICAL COMPOSITION

1. Major

Anthocyanins & flavonoids ; cyanidin-3,5-diglucoside, cyanidin-3-sophoroside-5-glucoside, quercetin-3,7-diglucoside, quercetin-3-diglucoside⁴⁶.

2. Other

A cyclopeptide alkaloid⁴⁷ , cyanidin chloride, quercetin, hentriacontane⁴⁸ and vitamins : riboflavin, ascorbic acid & thiamine⁴⁹.

THERAPEUTIC EVALUATION

An uncontrolled clinical trial using the ethanolic extract of *Hibiscus rosa-sinensis* flowers was carried out on 21 women in the reproductive age group by administering 750 mg/day in 3 divided doses from the 7th to 22nd day of menstrual cycle (Total of 229 cycles). Fourteen women did not have pregnancy for 4 years, whereas 7 women dropped out of the trial.

A clinical study on 30 patients suffering from hypertension and hypercholesterolemia with a Siddha drug, *Anna Pavala Sindhooram*, containing *Japa* (*Hibiscus rosa-sinensis*) as one of the ingredients, indicated that the drug is efficacious in reducing the cholesterol, phospholipids and triglycerides. On withdrawal of the drug there was slow increase in lipids.

Clinical trials were conducted with *Vidangadi yoga* (a herbal preparation containing *Embelia ribes* seeds. *Hibiscus rosa-sinensis* flowers and *Ferula foetida* oleo-gum resin) for its antifertility activity. The drug was found to be quite effective with no toxic effects⁵⁰.

MAJOR THERAPEUTIC CLAIMS : Oral contraceptive⁵¹.

REFERENCES

- Adhirajan , N., Kumar, T. R., Shanmugasundaram, N.& Babu, M., In vivo and in vitro evaluation of hair growth potential of *Hibiscus rosa-sinensis* Linn, Journal of Ethnopharmacology, Vol-88, 2003, 235-239.
- Nadkarni, A. K., Indian Materia Medica, Bombay, 1954, 631.
- Ali, M. & Ansari, S. H., Hair care and herbal drugs, Indian Journal of Natural products , Vol-13, 1997, 3-5.
- Kurup, P. N. & Joshi, P., Handbook of Medicinal plants, New Delhi, 1979, 86.
- Dwivedi, R. N., Pandey, S. P. & Tripathi, V. J., Role of Japapushpa in the treatment of arterial hypertension. A trial study, Journal of Research in Indian Medicine, Yoga and Homeopathy, Vol-12, 1977, 13-36.
- Sethi, N., Nath, D.& Singh, R. K., Teratological study of an indigenous antifertility medicine , *Hibiscus rosa-sinensis* in rats, Arogya Journal of Health Science, Vol-12, 1986, 86-88.
- Singh, M. P., Singh, R. H. & Udupa, K. N., Antifertility activity of a benzene extract of *Hibiscus rosa-sinensis* flowers on female albino rats, Planta Medica, Vol-44, 1982, 171-174.
- Kumar, S., Kumar, V. S., Sharma, A., Shukla, Y. N.& Singh, A. K., Traditional medicinal plants in skin care, Central Institute of Medicinal and Aromatic Plants, Lucknow, 1994, 103.
- Alam, M. K., Medicinal ethnobotany of the Marma Tribe of Bangladesh, Econ Bot , Vol-46 [3], 1992, 330-335.
- Dragendorff, G., Die Heilpflanzen Der Verschiedenen Volker Und Zeiten, F. Enke, Stuttgart, 1898, 885.
- Burkhill, I. H., Dictionary of the Economic products of the Malay Peninsula Ministry of Agriculture and Co-operatives, Kuala Lumpur, Malaysia, Vol-I, 1966.
- Pardo De, & Tavera, T. H., Medicinal plants of the Philippines, Blakiston, Philadelphia, 1901.
- Whistler, W. A., Traditional and herbal medicine in Cook Islands, J. Ethnopharmacol , Vol-13[3], 1985, 239-280.
- Singh, Y. N., Traditional medicine in fiji , Some herbal folk cures used by Fiji Indians , J. Ethnopharmacol, Vol-15[1], 1986, 57-88.
- Luu, C., Notes on the Traditional Pharmacopoeia of French Guyana, Plant Med Phytother, Vol-9, 1975, 125-135.
- Adu-Tutu, M., Afful, K. & Lieberman , J. B., Chewing stick usage in southern Ghana, Econ Bot, Vol-33, 1979, 320-328.
- Vitalyos, D., Phytotherapy in domestic traditional medicine in Matouba Papaye [Guadeloupe], Dissertation, Ph. D. Univ Paris, 1979, 110.
- Haddock, R. L., Some Medicinal Plants of Guam including English and Guamanian common names, Report Regional Tech Mfg Med Plants, Papeete, Tahiti, Nov,1973, South Pacific Commissioner, Noumea, New Caledonia, 1974, 79.
- Kobayashi, J. Early Hawaiian uses of medicinal plants in pregnancy and childbirth, J. Trop Pediatr Environ Child Health, Vol-22, 1976, 260.
- Nath, D. N., Sethi, R. K. & Jain, A.K., Commonly used Indian abortifacient plants with special reference to their teratogenic effects in rats, J. Ethnopharmacol, Vol-36[2], 1992, 147-154.
- Krishnamurthy, Y., No easy way to new pill, Indian Express, September 17, 1980.
- Tiwari, K. C., Majumder, R.& Bhattacharjee, S., Folklore information from Assam for family planning and birth control, Int J. Crude Drug Res, Vol-20, 1982, 133-137.
- Maheswari, J. K., Singh, K. K.& Saha, S., Ethnomedicinal uses of plants by the Tharus of Kheri District, U. P. Bull Med Ethnobot Res, Vol-I, 1980, 318-337.
- Jain, S. K., & Tarafder, C. R., Medicinal plantlore of the santals, Econ Bot, Vol-24, 1970, 178-241.
- Malhi, B. S., & Trivedi, V. P., Vegetable antifertility drugs of India, Q. J. Crude Drug Res, Vol-12, 1972, 19-22.
- Reddy, M. B., Reddy, K. R., & Reddy M. N., A survey of palnt crude drugs of Anantapur District, Andhra Pradesh, Indian, Int J. Crude Drug Res, Vol-27[3], 1989, 145-155.
- Dixit, V. P., Effects of Chronically administered Malvaviscus flower extract on the female genital tract, Indian J. Exp Biol, Vol-15, 1977, 650-652.
- Hemadri, K. & Sasibhushana, S., Antifertility, abortifacient and fertility promoting drugs from Dandakaranya Ancient Sci Life, Vol-3[2], 1983, 103-107.
- Quisumbing, E., Medicinal plants of the Philippines. Tech Bull 16, Rep Philippines, Dept Agr Nat Resources, Manilla, 1951,1.
- Steenis-Kruseman, M. J., Van. Select Indonesian medicinal plants, Organiz Sci Res Indonesian Bull , Vol-18, 1953, 1.
- Shimizu, N. M., Tomoda, I., & Takada, k., Plant mucilages XLIII. A representative mucilage with biological activity from the leaves of *Hibiscus rosa-sinensis*, Biol Pharm Bull, Vol-16[8], 1993, 735-739.
- Alami, R. A. & Macksad, A. R., Medicinal plants in Kuwait AI-Assiriya printing press, Kuwait, 1976.
- Hooper, D., On Chinese medicine drugs of Chinese pharmacies in Malaya, Gard Bull STR Settlm, Vol-6, 1929, 1.
- Zamora-Martinez, M. C., Medicinal plants used in some rural populations of Oaxaca, Puebla and Veracruz, Mexico J. Ethnopharmacol, Vol-37[3], 1992, 179-196.
- Suwal, P. N., Medicinal plants of Nepal, Ministry of forests, Department of Medicinal plants, Thapathali, Kathmandu, Nepal,1970.
- Holdsworth, D.K., Medicinal plants of Papua-New Guinea Technical paper No. 175, South Pacific Commission, Noumea, New Caledonia, 1977.
- Holdsworth, D. K., Hurley, C. L., & Rayner, S. E., Traditional medicinal plants of New Ireland, Papua, New Guinea, Q J Crude Drug Res, Vol-18[3], 1980, 131-139.
- Ramirez, V. R., Mostacero, L J., Garcia, A. E., Mejia, C. F., Pelaez, P. F., Medina, C. D., & Miranda, C. H., Vegetales empleados en medicina tradicional Norperuana, Banco Agrario Del Peru and NACL Univ Trujillo, Trujillo, Peru, 1988, 54.
- ANON, Description of the Philippines, Part I, Bureau of Public printing, Manila, 1903.
- Watt, J. M., & Breyer, M. G., The Medicinal and Poisonous Plants of

- Southern and Eastern Africa, 2nd Ed, E. S. Livingstone, Ltd., London, 1962.
41. Wong, W., Some folk medicinal plants from Trinidad, Econ Bot, Vol-30, 1976, 103-142.
 42. Ayensu, E. S., Medicinal plants of the West Indies, Unpublished Manuscript, 1978, 110.
 43. Bourdy, G., & Walter, A., Maternity and Medicinal plants in Vanuatu, I, The cycle of reproduction J. Ethnopharmacol, Vol-37[3], 1992, 179-196.
 44. Quisumbing, E., Medicinal Plants of the Philippines, Tech Bull 16, Rep Philippines, Dept Agr Nat Resources, Manilla, 1951,1.
 45. Petelot, A., Les Plantes Medicinales du Cambodge, du Laos et du Vietnam, Vol-1-4, Archives Des Recherches Agronomiques ET Pastorales Au Vietnam, 1954, 23.
 46. Gupta, A. K., Sharma, M. & Tandon, N., Quality standards of Indian Medicinal Plants, Vol-2, Indian Council Of Medicinal Research, New-Delhi, 2005, 132.
 47. Khokhar, I.& Ahmed, A., Studies in medicinal plants of Pakistan : new cyclopeptide alkaloids from the flowers of *Hibiscus rosa-sinensis* , Sci Int (Lahore), Vol-4, 1992, 147-150.
 48. Shrivastava, D. N., Phytochemical analysis of Japakuśum , J. Res Indian Med, Vol-9, 1974, 103-104.
 49. The Wealth of India – Raw Materias , Vol-V, Publications and Information Directorate, Council of Scientific and Industrial Research, New Delhi, 1992, 91-92.
 50. Anonymous, Pharmacological Investigations of Certain Medicinal Plants and Compound Formulations Used in Ayurveda and Siddha, Central Council for Research in Ayurveda and Siddha, Govt. of India, New Delhi, 1996, 141.
 51. Sharma, P. V., Dravyaguna-Vijnana, 1 st Ed ,Vol-II, Chaukhambha Bharati Academy, Varanasi, 1969, 592-593.

Source of support: Nil, Conflict of interest: None Declared