

SANKHAHOLI (*EVOLVULUS ALSINOIDES* LINN): A REVIEW

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Received: 22 April 2016, Revised and Accepted: 29 April 2016

ABSTRACT

The Sankhaholi (*Evolvulus alsinoides* Linn. [EA]) of family Convolvulaceae which is commonly known as Shankhpushpi, in the traditional system of medicine including Unani medicine. It is a perennial herb with a small woody branched rootstock which contains alkaloids: Shankhapushpine and evolvine. Fresh plant of sankhholi contains volatile oil. It also contains a yellow neutral fat, an organic acid, and saline substances. Therapeutic uses of Sankhaholi EA, mentioned in the Unani medicine are alexiteric (Mufarreah), cardiac tonic (Muqawwi-e Qalb), brain tonic (Muqawwi-e Dimag), digestive (Hazim) Musaffi-e-Khoon (blood purifier), general tonic (Muqawwi-e-am), diuretic (Mudirr-e-Baul), anti-inflammatory (Muhallil-e-waram), hypoglycemic (Dafa-e-Ziabitus), and antihypertensive (Dafye Imtella). It is also used in a headache, asthma, hyperlipidemia, etc. The present article reviews the pharmacological actions and therapeutic uses of Sankhaholi (EA) present in Unani literature supported with the available clinical and animal studies.

Keywords: Sankhaholi; *Evolvulus alsinoides* Linn; Shankhpushpi; Unani medicine

INTRODUCTION

The traditional system of medicine is now gaining popularity after population became aware of side effects and limitation of synthetic medicine. In both organized (Unani, Ayurveda) and unorganized forms, plants have been utilized as therapeutic agents since old age. Sankhaholi (*Evolvulus alsinoides* Linn. [EA]) is one of such effective herb and has been used since ancient times by physicians [1]. Sankhaholi, with flowers shaped like a shankh (conch), is one of Lord Shiva's sacred instruments often used in ritual worship. It is considered memory enhancer in Unani literature and has been used as rejuvenator, anti-aging, mental stimulant, and tranquilizers. All parts of EA are accepted for medicinal uses as per the Indian pharmacopoeia [1].

Four plants referred to as Sankhaholi in literature they are: (i) *Convolvulus pluricaulis* Chois, (ii) EA (iii) *Canscora decussate* roem, and (iv) *C. ternatea* [2].

EA, family Convolvulaceae, is an important medicinal plant. Traditionally, it is used for different ailments in India and other countries, and grows in the open and grassy places almost throughout India and other subtropical countries [2]. Various dosage forms and a wide range of original products have been used in the traditional system of medicine and have reported therapeutic activity experimentally and clinically in various scientific journals [1]. The present article reviews the pharmacological actions and therapeutic uses of Sankhaholi (EA) present in Unani literature supported with the available clinical and animal studies.

SCIENTIFIC CLASSIFICATION OF SANKHAHOLI (EA)

Kingdom	Plantae - Plants
Subkingdom	Tracheobionta - Vascular plants
Super division	Spermatophyta - Seed plants
Division	Magnoliophyta - Flowering plants
Class	Magnoliopsida - Dicotyledons
Subclass	Asteridae
Order	Solanales
Family	Convolvulaceae - Morning-glory family
Genus	<i>Evolvulus</i> L. - dwarf morning-glory
Species	EA - slender dwarf morning-glory [3]

EA: *Evolvulus alsinoides*

Vernacular names

Urdu	Sankhaholi
Unani	Sankhaholi
Hindi	Shyamkranti, Sankhapuspi
Sanskrit	Vishnukranti, Vishnugandhi
Punjabi	Shankhpushpi, Kodyali
Bombay	Sankhavalli
Gujarati	Kalisankhavali
Malayalam	Vishnukranthi
Marathi	Vishnukanta
Tamil	Vishnukarandi, Vishnukaranthi
Telgu	Vishnukranta, Kancakura
English	Canscora [4-9]

PLANT DESCRIPTION

EA (dwarf morning glory) belonging to the family Convolvulaceae and is a perennial herb with a small woody branched rootstock; stem membranous, more than 30 cm long, prostrate, spreading, slender or rounded, wiry usually covered with long spreading hairs but sometime quite glabrous. Leaves are small numerous 6-20 by 4-8 mm, alternate, elliptic-oblong, obtuse, strongly petioles very short, sometimes almost absent. Flowers light blue, or deep blue very small solitary, or sometime in pairs. Peduncles are very long, filiform, axillary, calyx densely silky, sepals 4 mm long, lanceolate, very acute. Corolla 5 mm long; fruits are usually glabrous, four-valved thin capsules, 3-4 mm diameter [4,10-12,25].

Habitat and distribution

Sankhaholi is a small, hairy, diffuse, and perennial herb. It grows in open and grassy places throughout India and other sub-tropical countries.

Chemical constituent

The plant of sankhaholi contains alkaloids: Betaine, shankhapushpine, and evolvine. Fresh plant of sankhaholi contains volatile oil. It also contains a yellow neutral fat, an organic acid and saline substances. An unidentified compound has been isolated. Scopoletin, scopolin, umbelliferone, 2-methyl-1,2,3,4-butanetetrol, ferulic acid esters with alcohols and palmitic, stearic, oleic, 8-methyldecanoic, and heptadecanoic acids have been reported [13,14]. 2,3,4-trihydroxy-3methylbutyl 3-2-propenoate (1) and 1,3-di-O-caffeoyl quinic acid methyl ester, caffeic acid, 6-methoxy-7-O-glucopyranoside coumarin,

2-C-methyl erythritol, kaempferol-7-O-glucopyranoside, kaempferol glucopyranoside, and quercetin-3-O-glucopyranoside were reported from *n*-BuOH soluble fraction from the ethanol extract of EA [15,28].

Temperament (Mizaj)

- *Barid Ratab* [7,16]
- *Har Ratab* [8,17].

Therapeutic dosage (Miqdar-e-Khurak)

- 6-9 g [16,17]
- 3-5 g [8]
- 3-8 g [18].

Medicinal action of Sankhaholi (Afa'al wa khawas)

Anthelmintic (Qatile Deedan) [4,5,6,11]
 Alexiteric (Mufarreh) [4,9]
 Anti-diarrheal (Dafaye ishal) [4,9]
 Aphrodisiac (Muqawwi-e-Bah) [9,27]
 Appetizers (Mushtahi) [9-11]
 Brain tonic (Muqawwi-e Dimag) [4,5,7-9,16,17,27]
 Cardiac tonic (Muqawwi-e Qalb) [7,17,27]
 Laxative (Molayyen) [7,9,16,17]
 Febrifuge (Musakkin-e-Hararate) [4,5,11,12,27]
 Emmenagogue (Mudirr-e-Haiz)
 Conception promoter [9]
 Astringent [4,9]
 Digestive (Hazim) [7,27]
 General tonic (Muqawwi-e-am) [4-7,12]
 Blood purifier (Musaffi-e-Khoon) [7,8,16,17]
 Hair tonic (Muqawwi-e-Shaar) [4,5,26]
 Nervine tonic (Muqawwi-e-Asab) [7,27]
 Mughalliz-e-Mani [7,8,17]
 Anti-inflammatory (Muhallil-e-waram) [7,17]
 Eye tonic (Muqawwi-e-Basar) [7,8,17,27]
 Dafa-e-Sual [7,27]
 Dafa-e-Bawaseer [7,8,17,27]
 Detergent (Jali) [17]
 Diuretic (Mudirr-e-Baul)
 Hypoglycemic (Dafa-e-Ziabitus) [7,27]
 Anti-convulsant (Dafa-e-Tashannuz) [7]
 Anti-emetic (Mane-Qai) [7]
 Musakkin-e-Atash [17]
 Coolant (Mubarrid) [7]
 Mumbite sha'r [12]

THERAPEUTIC USES

It is mostly used in zofe dimagh, zofe qalb wa asab, diabetes, ihtebas-e-baul wa haiz, istisqaa (ascites), zof-e-meda (gastric upset), nafakh-e-shikam (flatulence), anxiety neurosis, stress Condition, qulanj (intestinal colic), bawaseer (piles) warm-e-rahem, inteshar-e-shar, wajaul-qutn (backache), mirgy (Sara) taqteerul baul [4,7,24]. It is also used in nazla (common cold), suaal (cough), asthma and used in dard-e-chashm [21] it is also used in skin eruption and fasad-e-khoon (bahaq, bars) [7,26].

It is used to cure insomnia, irritability as well as epilepsy [4,5,9], as it has a relaxing effect on the brain [7,8]. It is a natural tranquilizer that promotes deep and revitalizing sleep. Recommended where the mind becomes overactive, Agitated and restless. It is slightly laxative in action and improves digestion. It promotes health of both the male and female reproductive organs. It is a rejuvenative herb with anti-aging properties. May also help in preventing changes in the neuron cell bodies in specific brain areas. It is also useful in fever, asthma, bronchitis, biliousness, and hypertension. It is a sovereign remedy in bowel complaints especially diarrhea and dysentery. It has been found to be effective in reducing different types of stress including psychological, chemical and traumatic. A decoction of the whole plant of Sankhaholi with *Ocimum sanctum* is administered in fevers accompanied by indigestion or diarrhea. Decoction was given in cases of malarial fever [7,27]. The root of Sankhaholi is used with sandal, for intermittent childhood fever. The

leaves of Sankhaholi are made into cigarettes and smoked in chronic bronchitis and asthma. The Sankhaholi oil promotes the growth of hairs [4,5,26].

According to an ethnobotanical survey conducted among Kani/Kanikaran ethnic groups in Southern Western Ghats of India, whole plant of EA is used for the treatment of venereal diseases [19].

PHARMACOLOGICAL/CLINICAL STUDIES ON SANKHAHOLI

S. No.	Actions	References
1	Antioxidant activity [14,21]	Cervenka et al., 2008, Kumar M et al., 2010, Gomathi et al., 2013
2	Antidiabetic activity [21]	Gomathi et al., 2013
3	Immunomodulator activity [24,38]	Ganju et al., 2003, Mahiuddin et al., 2010
4	Anti-stress activity [15,23]	Gupta et al., 2007
5	Antihypertensive activity [22,29,37]	Kiran et al., 2005, Joshi et al., 2012
6	Antihyperlipidemic activity [21,36]	Gomathi et al., 2013, Deepa et al., 2014
7	Anti-anxiety activity [30]	Shamsi et al., 2007
8	Antiulcer activity [35]	Purohit et al., 1996
9	Hepatoprotective activity [33,34]	Chander et al., 2014, Ravichandra et al., 2013
10	Anti-depression activity [32]	Babu et al., 2005
11	Antifungal activity [31]	Deviha et al., 2015

Substitute (Badal)

- *Barhammi* [17].

Formulations (Murakkabat)

- *Majoon-e-Suparipak* [20].
- *Demagheen* (Jamia Tibbiya)
- *Safi* (Hamdard).

CONCLUSION

Sankhaholi (EA) is a very beneficial plant for human being due to its pharmacological actions of the whole plants in almost all the disease. Sankhaholi (EA) is widely acceptable due to its antibacterial activity, anti-diabetic activity, and antioxidant activity, antifungal activity, immunomodulator, hepatoprotective activity, nephroprotective and neuroprotective activity, antihyperlipidemic activity, antihypertensive activity. Sankhaholi is a very effective in anxiety neurosis and stress condition. This drug is used in the traditional system of medicine since long time. Hence, this study may be helpful to know the pharmacological actions and uses of Sankhaholi (EA) which are mentioned in the Unani system of medicine.

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