

## Utility of *Shatapushpa* (Indian Dill) in *Kashyapa Samhita* and its Critical Analysis- A Review

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### Abstract

*Shatapushpa* ( *Anethum sowa*) is one of the important medicinal plant having many therapeutic uses. *Acharya Kashyapa* had described it as nectar for women having gynaecological disorders. He also had described its many other medicinal effects in a separate chapter called "*Shatapushpa Shatavari Kalpadhyaya*" in his text "*Kashyapa Samhita*". According to him *Shatapushpa* is sweet, anabolic, strength providing, promoter of nutrition, complexion & increases digestive fire. It is initiator of *rtu* (menstruation). It purifies *yonis* (female reproductive organ ) and *Shukra* ( sperm & spermatic fluid ). Without any laboratory investigations *Acharya Kashyapa* described many of its therapeutic effects very scientifically. Various research studies at present reveal many major chemical constituents present in this wonder drug, such as limonene, grandisol, benzene dicarboxylic acid, carvone, Beta -phelladone and many more. These constituents are clinically proved to be having many therapeutic effects like anti-bacterial, anti-septic, anti-spasmodic etc.

### Keywords

*Kashyapa Samhita, Shatapushpa*



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## INTRODUCTION

The Original *Kashyapa Samhita* was written between 6<sup>th</sup> century BC and 2<sup>nd</sup> century AD. *Kashyapa samhita* that we are reading today is actually 1/4<sup>th</sup> or even less than that it would have been in its original form. It has been come to light by Rajaguru Hemraja Sarma of Nepal in the year 1983. The Samhita is considered specifically as the book of *Kaumarabhritya* (Paediatrics). Available *Kashyap Samhita* is incomplete as out of total 200 chapters only 78 are available. *Acharya Kashyapa* have many contributions to Ayurveda and ultimately for human being. Utility of *Shatapushpa* is one among them. He had emphasised the importance of this drug in various aspect of human health. The author had written a separate chapter named *Shatapushpa-Satabari Kalpa-adhyaya* in his text, which highlights its importance. He had narrated many formulations of *Shatapushpa* which can be very helpful for both men and women. Let's have a look.

### BRIEF DESCRIPTION OF SHATAPUSPA

**Botanical name** - *Anethum sowa/ Anethum graviolense*: Family-Umbeliferae

**Indian Names** - Hindi, Bengali, Punjabi, Urdu (Sowa, soya), Gujrati (Surva),

Kannada (Sabastya), Marathi (Surva), Sanskrit (Shatapushpa), Telugu (Sabasige)

**English name** - Dill and Anet

**Arabic** - Shibth/ Habu/ Helwa.

It is a perennial herb 30-90cm height, Leaf - Bipinnate, linear, Flower-White with yellow coloured petal. Its style is smaller in size; Fruit has 42 dorsal intermediate ridges slender solitary in each furrow. *Anethum sowa* and *Anethum graveolens* are known as Indian and European variety of dill respectively. *A. graviolense* is indigenous to Europe & is cultivated in England, Germany, Rumania, Turkey, USA & also in India. Sometimes *Anethum sowa* is regarded as a variety of European dill & cultivated throughout India chiefly in Punjab, MP, UP, Gujrat, Assam, AP & West Bengal. Three distinct variety of Indian dill fruit, "Ghoda"(Meriacarp), "Vizag"(Cremocarp & Meriacarp) & "Variali sowa" (Cremocarp) are reported. Dill is an important herb of everyday use. The fruits and its emulsion in water are considered as aromatic, carminative useful in flatulence, especially for infant's colic pain, vomiting & hiccups.

### DESCRIPTION OF SHATAPUSHPA BY KASHYAPA & ITS SCIENTIFIC ANALYSIS

In the very beginning of the chapter he had described *Shatapushpa* as “**Madhura brimhani balya pusti barna agni bardhini**” means it is sweet, anabolic, strength providing, promoter of nutrition, complexion & fire (digestive power/ metabolic power). *Acharya* told all these things very scientifically. Present researches reveal many facts in evidence to support all the above said qualities of *Shatapushpa*. The chemical constituents present in *Shatapushpa* are essential oil(1-4%), fatty acids, moisture, protein(15.68%), carbohydrate(36%), fibre(4.80%), mineral elements like calcium, potassium, magnesium, phosphorus, sodium, Vit-A, Niacin etc. Again he told “**Ushna Vataprashamini**” means its potency is *Ushna*, that's why it pacifies *Vata dosha*. It is **rtu prabartini** means initiator of menstrual cycle & *Yoni Shukra vishodhini* means it purifies the reproductive organ in female, sperm and spermatic fluid in male. A study has been carried out where the effect of dill seeds extract on female reproductive system in female rat was reported. Treatment with high dose extract resulted in significant increase in duration of oestrous cycle and diestrous phase. Smooth and Rough endoplasmic reticulum,

mitochondria increased in granulosa lutein cell, progesterone also increased significantly. This is the clear indication of ovulation which can be comparable to the menstruation (**rtu**) in human female. The dill essential oil has reported having broad spectrum anti bacterial, anti-fungal and anti-ulcerative properties. Research outcomes will be shown later. So we can tell it is able to combat the infection of both male and female genital tract and purifies. “**Api bandhya cha shandha cha suyate**”. In this verse he is telling *Shatapushpa* can be used in case of infertile and hermaphrodite. Cause is somewhat like dill seed extract is oestrogen promoting. “**Yuva bhabati brudhopi**”. This verse indicates the anti-oxidant and anti-geriatric effect of *Shatapushpa*. Of course many research articles has shown proof respectively as cited ahead.

1. Plant extract donates electron. In a test where colour changes from yellow to bluish green was observed which indicates the reduction of ferric ions to ferrous ions.

2. Flavonoids in dill seeds are reported as radical scavengers and thus delays the process of aging.

A person attains *Teja* (complexion), *Oja* (immunity), *Budhi* (intellect), *Dirghayu*

(long life), *Dhruti* (memory) & get rid of *Bali-Palita* (wrinkled skin and greying of hair) by taking *Shatapushpa* says *Kashyap*. It is very true as it is rich in vitamins and minerals like Ca, K, and Na which have effect on memory and brain development. Vit-A, Niacin, Mg, P are responsible for goodness of skin, eye, hair, bones. Hence, ultimately prevent wrinkles, premature greying of hair and hair fall. Acharya *Kashyapa* had described many therapeutical action of *Shatapushpa* by combining it with variety of *Anupana*. Such as, with honey it increases digestive power, with cow ghee enhances beauty, with till oil increases strength, with mustard oil reduces splenomegaly, jaundice & anaemia, with milk & urine of buffalo reduces inflammation/ edema, with oil of castor it cures *Gulma* (tumours/extra growth), with water of *Khadira* cures *Kustha* (skin disease), with fish fat & meat-soup relieves constipation. Its anti-inflammatory action was reported when 10% of aq extract of fruit & 5% aq solution of essential oil administered in mice. The effect of fruit (1.0g/kg body wt) may be comparable to 200 mg/kg body wt of acetyl salicylic acid. The phyto-chemical tannin present in its essential oil has reported to cause regression

of tumours that are present in tissues. Its seed oil contains 14-80% of fibre which aids smooth defecation by increasing faecal bulk. Another chemical eugenol present is known for its antiseptic property which prevents skin disease. *Kashyapa* highlighted the effect of *Shatapushpa* exclusively in many of gynaecological disorder such as “*Artabam ya na pashyati*” (amenorrhoea) *Pashyanti bishphala cha ya* (without fruit means women not having child/ can't conceive) *Atiprabhut* (menorrhagia) *Atyalpam* (hypomenorrhoea) *Atikrantam* (menopause) *Abisransi* (having improper flow of menstruation). All these menstrual disorders are more or less associated with hormonal imbalance, poor or nil estrogen secretion or disturbed hypothalamo-pituitary-ovarian axis, poor haemoglobin, nutritional deficiency. We have already discussed about its role in increasing estrogen and hormone regulation. In a condition of *Shuska Yoni* means dry vagina and “*Sparsha cha ya na bindanti*” means loss of sensation at vagina, administration of *Shatapushpa* is like nectar. We all know that dryness, pain & loss of sensation in vagina is mainly due to 5 reasons such as decrease in estrogens level during menopause, after child birth, during breast feeding, cancer

chemotherapy and pelvic radiation etc, secondly due to allergy and cold medication, thirdly insufficient arousal, fourthly irritants like soap, hygiene product, dyes and perfumes and fifthly by anxiety. Many researchers have revealed its galactogouge property. *Acharya Kashyapa* very scientifically told its utility for lactating mother which ultimately is beneficial for child. “*Durbala adridha putra krusha bapusha*” means women whose child is weak, less in physical strength, emaciated body should take *Satapushpa*.

**SOME RESEARCH OUTCOMES OF DILL** Research works have proved the presence of Phyto-chemicals in dill seed oils (Table-1), its

**Table 1** Phyto- chemical analysis of dill seed oils

S no	Phytoconstituents	Dill seed oil
1	Reducing sugar	+
2	Tannins	+
3	Glycosides	+
4	Saponins	+
5	Flavinoids	+
6	Steroids	+
7	Anthraquinone	-
8	Terpenoids	+
9	Flavonosides	+

antibacterial activity determined by agar well diffusion method (Table-2),

**Table 3** Nutritional Values

PROTEINS	13.1%	ASCORBIC ACID 12 gm/100g
FAT	17.9%	VITAMIN B1 0.42mg/100g
CRUDE FIBER	20.7%	VITAMIN B2 0.28mg/100g
CARBOHYDRATE	35.7%	NIACIN 2.8mg/100g

**Table 2** Anti bacterial activity of dill seed oil determined by agar well diffusion method.

S NO	TEST BACTERIA	ZONE OF INHIBITION (in mm)
1	Staphylococcus aureus	13.5±0.08
2	Styphylococcus aureus MRSA	11±0.10
3	S .aureus ATCC25923	14±0.12
4	Escherichia coli	12.2±0.09
5	E coli ATCC25922	13±0.13
6	Enterococcus sp	15±0.11
7	Pseudomonas aeruginosa	10.5±o.085
8	Klebsiella pneumoniae	10±o.10
9	Proteous mirabilis	-
10	Acinetobactor sp	-

its nutritional values (Table -3), the essential oil content of Fruits (1-4%) (Table-4) and the Fatty acid content in different seed (table -5). Dill seed contains 6.22% Saturated fatty acid & (93.78%) unsaturated fatty acid. It contain 9.36% fatty oil but could be advantageous over the other vegetable oil in respect to health benefits due to high PUFAs in the oil as it contains 87.10% of oleic acid & 6.68% of linolic acid. High oleic acid also helpful to reduce raised levels of total plasma cholesterol without reducing the high density lipo-protein (HDL), cholesterol level [US Department1990;Francie et al 1995]. The high fiber content (28.88%) of dill seeds increase faecal bulk and lowers gastric cholesterol [Edeoga et al 2003 Enwere1998]. Again these seeds possess

CALCIUM	1.6%	VITAMIN –A 175 I U/100g
IRON	0.012%	CALORIFIC VALUE 435/100 g
POTTASSIUM	1.1%	
SODIUM	0.01%	

**Table 4** Components of essential oil present in fruit

Carvone(30-60%)	Diterpene	Paramyrcene	Myristin
Limonene(33%)	Dihydrocarvone	Diallaprole	Apiol
Dphellandone(20.61%)	Cineole	Bomyristian	Diallapiol
Penene	Myrcene	Myrystician	Furanocoumarin

**Table 5** Fatty acid in different seed

SL NO	Seeds evaluated	Stearic acid	Arachidic acid	Behenic acid	Palmitic acid	Linolenic acid	Oleic acid
1	DILL	0.95%	0.46%	0.46%	4.27%	6.68%	87.10%
2	OLIVE	-----	-----	-----	-----	-----	65-85%
3	SUNFLOWER	-----	-----	-----	-----	-----	79.7%
4	SOYABEAN	-----	-----	-----	-----	2-10%	-----
5	RAPESEED	-----	-----	-----	-----	7-9%	-----
6	MUSTARD	-----	-----	-----	-----	6.5-6.8%	-----
7	GRAPSEED	-----	-----	-----	4-11%	-----	-----

contractive effect on myometrium by enhancing release of oxytocin. A dose of 6-7 gm of dill extract after delivery decreases postpartum haemorrhage due to its characteristic limonene and anethol show contractive effect on uterine myometrium. So it should not be recommended in pregnancy. Daily dose should not exceed of seed 3gm and essential oil 0.1-0.3 g. Seed extract is significant mucosal protective and have anti secretory effects in gastric mucosa lesions induced in mice by oral administration of HCl(1N) & absolute ethanol. Seed extract exerted moderate activity against H.pylori, reduce contraction of rabbit intestine. Ethanol extract inhibit acetyl choline & histamine induced

contraction of guinea- pig ileum. D-limonene & D-carvone found in dill seed have strong anti-fungal against *Aspergillus niger*, *Candida albicans*, *Saccharomyces cervisians*. Another study of dill powder and essential oil has shown hypolipidaemic activity in rats, suggesting it may be used cardio-protective agent. It has also been reported as anticancer, anti-diabetic, anti-oxidant, anti-spasmodic, insecticidal and diuretics in many of research works.

## CONCLUSION

Dill is a plant with wide range of chemical constituent with many pharmacological effects. This is a great promise for development of novel drug from dill.

*Acharya Kashyapa* was very well-known about its clinical use. That's why he not only highlighted it in gynaecological disorders but also described its other uses very scientifically. He described many formulations and its multiple route of administration like nasal instillation, oral, unction, massage, enemas praised by sages for achievements of above said benefits in humans. In the modern era natural remedy with *Shatapushpa* will stand strong against many health issues.

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