

THERAPEUTIC ASPECT OF *KUCHALA* CONTAINING FORMULATIONS

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ABSTRACT

Rasa-shastra is the science which deals with poisonous drug along with scientific processing of metals & minerals to convert it into therapeutic dosage form. The poisonous drugs are classified in two groups on the basis of their severity and toxic effects, that is *Visha* and *Upvisha*, *Kuchala* is one of them. It has many health benefits, if it is used after purification. *Kuchala* acts as a *Hrudayottejak*, *Naadibalya*, *Kapha- vatshamak* etc. According to Modern toxicology *Strychnos nux-vomica* acts as a Neurotic spinal excitant poison. *Agnitundi vati*, *krumimudgar ras*, *vishatinduk taila* etc. are various *Kuchala* containing formulations. Present work is to highlight the various formulation of *Kuchala* and its clinical efficacy in various diseases.

INTRODUCTION

Rasa-shastra is the science which deals with poisonous drug along with scientific processing of metals & minerals to convert it into therapeutic dosage form. The poisonous drugs are classified in two groups on the basis of their severity and toxic effects, that is *Visha* and *Upvisha*. From therapeutic point of view all these drugs shows effectiveness even in small doses. But at the same time these may prove very fatal to human being if used without purification and in higher doses. Hence in *ayurvedic* literature different purification methods are advised to minimise their toxic effects.

As per *Rasa-shastra* literature the drugs of *visha* nature are classified into two subgroups, *Visha* and *Upvisha* group.^[1] *Kuchala* is one of them. It has many health benefits, if it is used after purification. Present work is to highlight the various formulation of *Kuchala* and its clinical efficacy in various diseases.

AIM AND OBJECTIVES

- **Aim** - To explore the therapeutic efficacy of *Kuchala* containing formulation.
- **Objectives** - To study the mode of action of *Kuchala* containing formulation.

MATERIAL AND METHODS

Various classical textbooks and *samhitas*, modern literature available till date, available research articles, journals & previous work done.

Kuchala (*Strychnos nux-vomica*)^[2]

- **Synonyms**- *Vishatinduka*, *Vishadruma*, *Vishamushti*, *Kupilu* etc.
- **Shodhana Dravya**- *Kanji*, *Godugdha*, *Gomutra*, *Goghrita*.

• **Pharmacotherapeutic properties-**

- 1) **Ras**- *Katu*, *Tikta*, *Kashaya*.
 - 2) **Guna**- *Laghu Ruksha*, *Tikshna*
 - 3) **Virya**- *Ushna*.
 - 4) **Vipaka** – *Katu*
- **Doshaprabhav** – *Shleshma- vathara*
 - **Vyadhiprabhav** – *Unmada Raktavikara Kustha*, *Kaphavat roga Prameha Pitta vikara*.
 - **DOSE** - $\frac{1}{2}$ to 1 *Gunja*
 - **Toxic Effects** – *Dhanustambha Akshepaka Angamarda Kampavaata Dantaharsha*.

Shodhan process of Kuchala

1st Method^[3]: *Kuchala* seeds shall be immersed in *Gomutra* (cow's urine) for 7 nights; fresh *Gomutra* is to be replaced every night. Thereafter, it is removed and washed with water. Seeds shall be further detoxified by *Swedana* boiling with *Godugdha* (cow's milk) in *Dolayantra* for 3. h. The seed coat and embryo are removed. The cotyledon shall be fried in *Goghrita* (cow's ghee) and powdered well.

2nd Method^[4]: The seeds are fried in *Goghrita* (cow's ghee) by slow heating; separate the outer covering of seeds and warm cotyledon are finely powdered and used.

3rd Method^[5]: Ripped seeds of *Kuchala* are immersed in *Kanji* (butter milk) for three days. After three days the outer shell should be peel off, dried in sun light, powdered well and collected in a glass jar.

Strychnine medicinal properties

Strychnine acts as a Cardiac, CNS, Respiratory system & Digestive stimulant. Also works as Analeptic (health restorative). It shows great result in Sleep apnea, Sexual debility, snake bite, Inflammation and Increases muscle tone.

It is also used as an antidote to barbiturates and opioid overdoses.

Kuchala containing formulations

1. Agnitundi vati
2. Vishhindukadi vati.
3. Krimimudgar ras.
4. Navjeevan ras.

5. Ekangveer ras.
6. Laxmivilas ras.
7. Vishhinduk tail.
8. Mahavishagarbha tail.
9. Sameergajkesari
10. Shoolanirmulan ras
11. Suptavatari ras

Agnitundi Vati^[6] (Rasatarangini)

Table 1: Showing Pharmacodynamic properties and other properties of Ingredients.

NO	CONTENTS	MATRA	DOSHAGHNATA	KARMA
1	Kajjali	1 Bhag	Tridoshahara	Uttejaka, Jantughna, Vrushya, Rasayana, Yogvahi
2	Ajamoda	1 Bhag	Kapha vatshamak	Vedanastha-pana, Klaibya, Vajikaran, kashta-artav
3	Haritki	1 Bhag	Tridoshahara	Balya, Medhya, Yakruduttejak, Anuloman, Mrudurechan, Rasayana, Kushthaghna, , Kaphaghna
4	Bibhitaki	1 Bhag	Tridoshahara	Shothhar, Vedanasthapan, Krumighna, Vajikaran, Jwaraghna.
5	Aamalaki	1 Bhag	Pittashamak	Dahprashaman, Chakshushya, Keshya, Medhya, Vrushya, Deepan, Rasayan
6	Chitrak	1 Bhag	Kaph vatshamak	Deepan, Pachan, Shothhar, Grbhashay- sankochak, Jwarghna, Swedjanan, Kanthya.
7	Jeerak	1 Bhag	Kaph vatshamak	Deepan, Paachan, Vatanuloman, Grahi, Shoolprashaman, Krumighna, Jwaraghna, Balvrudhyarth
8	Vidang	1 Bhag	Kaph vatshamak	Jantughna, Kushthaghna, Shirovirechan, Balya, Anuloman, Krumighna, Raktashodhan, Varnya, Kushthaghna
9	Shunthi	1 Bhag	Kaph vatshamak	Sheetprashaman, Shothahar, Vedanasthapan, Uttejak, Vatashamak, Shoolprashaman
10	Marich	1 Bhag	Kaph vatshamak	Lekhan, Raktotkleshak, Uttejak, Balya, Kushthaghna
11	Pippali	1 Bhag	Pittashamak	Medhya, vatahar, Jantughna, Balya, vrushya Garbhashaysankochak, Kushthaghna, Rasayan,
12	Sajjikshar	1 Bhag	Vatshamak	Pachan, Shwas-Kas shamak, Gulma, Aadhman, Vrana, Udar roga, Kruminashan
13	Saindhav	1 Bhag	Tridhosh shamak	Netrarog, Dhatupushti, Vranvikruti
14	Bidlavan	1 Bhag	Kaph vatanulomak	Agnideepak, Vatanulomak, Virechak, Balya, Pleehavidhi, Yakrutvikar, Aadhman, Shoola, Apachan, Antrik vikar
15	Kuchala		Kaph vatshamak	Shothhara, Vedanasthapan, Akshepajanan, Shoolprashman, Kaphaghna, Ardita, Pakshaghat

Therapeutic Use:- Agnimandya, Aatisara, Arsha, Katiprushta shoola

Vishindukadi Vati^[7] (Rastantrasar and Siddhaprayog sangrah -1)

Table 2: Showing Pharmacodynamic properties and other properties of Ingredients.

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	Kuchala	10 Tole (100 gm)	Kaph vatshamak	Shothahara, Vedanasthapan, Akshepajanan, Ardit, Shoolprashman, Kaphaghna, Pakshaghat
2	Maricha	9 Mase (9 gm)	Kaph vatshamak	Lekhan, Raktotkleshak, Uttejak, Balya, Kushthaghna
3	Supari (Puga)	1 Tola (10 gm)	Kaph pittashamak	Nadibalya, Vran ropana, Stambhana, Krumighna, Garbhashay shothahar, Mutrasangrahiya
4	Amlika	8 Nag (6 gm)	Kaph vatanashak	Trushna nashak, Rochaka, saumya virechaka

Therapeutic Use:- Agnimandya, Ardita, Pakshaghata, Visuchika, Nadi Daurbalya, Kushtha, Arsha, Klaibya, Gridhrasi, Kandu, Vrana.

Krumimudgar Ras^[8] (Yogratnakar)**Table 3: Showing Pharmacodynamic properties and other properties of Ingredients.**

NO	CONTENT	MATRA	DOSHAGHATA	KARMA
1	Kajjali	1 Bhag	Tridosahara	Uttejaka, Jantughna, Vrushya, Rasayan, Yogvahi
2	Ajamoda	2 Bhag	Kaphvatshamak	Vedanasthapan, Mutrapravartak, Garbhashayuttejak, Vajikaran, Kashtartav, Klaibya
3	Vidang	3 Bhag	Kaphvatshamak	Jantughna, Balya, Kushthaghna, Varnya, Shirovirechan, Anuloman, Krumighna, Raktashodhan, Kushthaghna
4	Kuchala	4 Bhag	Kaph vatshamak	Shothhar, Ardita, Vedanasthapan, Akshepajanan, Shoolprashman, Kaphaghna, Pakshaghat
5	Palashbeej	5 Bhag	Kaph vatshamak	Krumighna, Vishaghna Pramehaghna, charmrog, Twakrog,
6	Musta (bhavanadravya)	As per required	Pittashamak	Twagroghar, Shothahar, Lekhana, Sanyajanan, Raktaprasadan, Kaphaghna

Therapeutic Use: Krumi (Purishaj krumi, Kaphaj krumi)

Navjeevan Ras^[9] (Rasatarangini)**Table 4: Showing Pharmacodynamic properties and other properties of Ingredients.**

NO	CONTENT	MATRA	DOSHAGHATA	KARMA
1	Kuchala	2 Tole (20 gm)	Kaph vatshamak	Shothhar, Vedanasthapan, Akshepajanan, Ardita, Shoolprashman, Kaphaghna, Pakshaghat
2	Shunthi	2 Tole (20 gm)	Kaph vatshamak	Sheetprashaman, Shothahar, Vedanasthapan, Uttejaka, Vatashamak, Shoolaprashaman
3	Marich	2 Tole (20 gm)	Kaph vatshamak	Lekhan, Raktotkleshak, Uttejaka, Balya, Kushthaghna
4	Pippali	2 Tole (20 gm)	Pittashamak	Medhya, vatahar, Jantughna, Garbhashaysankochak, vrushya, Kushthaghna, Rasayan, Balya
5	Loh bhasma	2 Tole (20 gm)	Kaph pittanashak	Deepan, Kshayrog, Gulma, Pleeha, Udarkrumirog nashak, Pandu, Medovikar, Shwasa, Arsha, Shool nashak
6	Rassindur	2 Tole (20 gm)	Kaph vatshamak	Shothnashak, Gulma, Pandu, Sthaulya, Kushtha, Agnimandya

Therapeutic USE: Deepana, Pachan, Bal sanjanan, Antrashoolahara, Adhmana, Atisara, Malabadhha, Ardhavabheda, Raktasanjanana.

Ekangveer RAS^[10] (Nighantu Ratnakara)**Table 6: Showing Pharmacodynamic properties and other properties of Ingredients.**

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	Kajjali	Each dravya samabhaga	Tridosahara	Uttejaka, Jantughna, Vrushya, Rasayan, Yogvahi
2	Lohabhasma		Kaph pittanashak	Deepan, Kshayrog, Gulma, Pleeha, Udarkrumirog nashak, Pandu, Medovikar, Shwasa, Arsha, Shool nashak
3	Vang bhasma			Medovikar, Rasayan, Vrana, Prameha, Shwetapradar, Kasa, Shwasa, Balya, Bahumutrata
4	Nag bhasma		Kaph vatnashak	Agnivardhak, Vaatroga, Vran ropak, Gulma, Murcha
5	Tamra bhasma			Vishnashak, Pittanissarak, Lekhan, Vamaka, Udar-krumi nashak, Pandu, Vat-kapharsh, Grahani
6	Abhrak bhasma		Tridosh nashaka	Rasayan, Vrushya, Snayu- shaitihilya, Indriya daurbalya, Uttejaka
7	Shunthi		Kaph vatshamak	Sheetprashaman, Shothahar, Vedanasthapan, Uttejaka, Vatashamak, Shoolaprashaman
8	Marich		Kaph vatshamak	Lekhan, Raktokleshak, Uttejaka, Balya, Kushthaghna
9	Pippali		Pittashamak	Medhya, vatahar, Jantughna, Balya Garbhashaysankochak, vrushya, Kushthaghna, Rasayan,

Bhavana Dravya:- Triphala kwath, Trikatu kwath, Nirgundi rasa, Shigru twak rasa, Kushtha, Amalaki, Kuchala beeja, Arka mula, Guduchi kwath each 3-3 bhavanas.

Therapeutic Use:- Pakshaghata, Ardita, Ghrudhrasi, Vishvachi, Avabahuka, Sarva vatamaya, Ardhangvata, Dhanurvata.

Laxmivilas Ras^[11] (Rasatarangini)**Table 7: Showing Pharmacodynamic properties and other properties of Ingredients.**

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	Kuchala	6 Tole (60 gm)	Kaph vatshamak	Shothhara, Vedanasthapan, Shoolprashman, Kaphaghna, Ardita, Pakshaghat
2	Tankan	6 Tole (60 gm)	Kaph vatshamak	Kasa, Shwasa, Vishnashak, Deepan, Mudhgarbh, Udaradhman, Paradvikar
3	Marich	6 Tole (60 gm)	Kaph vatshamak	Lekhan, Raktokleshak, Uttejaka, Balya, Kushthaghna
4	Lohabhasma	4 Tole (40 gm)	Kaph pittanashak	Deepan, Kshayrog, Gulma, Pleeha, Udarkrumirog nashak, Pandu, Medovikar, Shwas, Arsh, Shool nashak
5	Kajjali	3 Tole (30 gm)	Tridosahara	Uttejaka, Jantughna, Vrushya, Rasayan, Yogvahi

Therapeutic Use: Kshin Retasa, Dehapushtikara, Viryavivardhana, Balvarnakar, Vrushya, Agnimandya, Raktasanjanana.

Sameergajkesari Ras^[12] (Rastantrasar and siddhaprayog sangrah- 1)**Table 8: Showing Pharmacodynamic properties and other properties of Ingredients.**

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	Hingul	1 bhag	Kaph-Pittanashak	Netraroghar, Pleeha, Kushtha, Garvisha, Kamala, Aamapachan, Prameha, Aamavat, Jwara.
2	Marich	1 bhag	Kaph-Vat shamak	Lekhan, Raktokleshak, Uttejaka, Balya, Kushthaghna.
3	Afim	1 bhag	Tridosha-shamak	Grahi, Nidrajanan, Grahi, Atisar, Visuchika, Aamvaat, vataj kasa, Rajyakshma.
4	Kuchala	1 bhag	Kaph-Vata shamak	Shothhara, Ardita, Vedanasthapan, Shoolprashman, Kaphaghna, Pakshaghat.

Therapeutic uses:- *Jeerna vatavikar, Aamvata, Katishoola, Aruchi, Udarshool, Sangrahani, Grudhrasi, Avabahuk, Shotha, Apatanak, Apasmar, Visuchika.*

Vishatinduk Tail^[13] (Rasatarangini)

Table 9: Showing Pharmacodynamic properties and other properties of Ingredients.

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	<i>Kuchala</i>	<i>1 Tola (10 gm)</i>	<i>Kaph vatshamak</i>	<i>Shothahara, Ardita, Vedanasthapan, Shoolprashman, Kaphaghna, Pakshaghat</i>
2	<i>Til tail</i>	<i>8 Tole (80 gm)</i>	<i>Vata kaphashamak</i>	<i>Sthairyabalavarnakar, Vrushya, Deepan, Medhya, Garbhashayavishodhana, Twachya, Keshya, Chakshushya, Shrotrayonishirshulanashan.</i>

Therapeutic Use: Pakshaghat, Vataroga

Mahavishgarbha Tail (Ayurvedsaar sangrah-Anubhavik yog)

Table 10: Showing Pharmacodynamic properties and other properties of Ingredients.

NO	CONTENT	MATRA	DOSHAGHNATA	KARMA
1	<i>Til tail</i>	<i>5 Ser, 8 Chatak</i>	<i>Vata kapha shamak</i>	<i>Sthairyabalavarnakar, Vrushya, Deepan, Medhya, Garbhashayavishodhana, Twachya, Keshya, Chakshushya, Shrotrayonishirshulanashan.</i>
2	<i>Vatsanabha</i>	<i>20 Tole (200 gm)</i>	<i>Tridoshaghna</i>	<i>Swedajanan, Deepan, Shothaghna, Mutral, Vatvedanahar, Timir, Rasayana, Bruhana, Shitprshaman, Pliha, Balvardhana, Agnimandya, Vatarakta, Udar, Shwas, Kaasa, Grahani, Kushtha, Pandu, Aamvata, Grudhrasi.</i>
3	<i>Kuchala</i>	<i>20 Tole (200 gm)</i>	<i>Kaph-Vat shamak</i>	<i>Shothhar, Vedanasthapan, Shoolprashman, Ardit, Kaphaghna, Pakshaghat</i>
4	<i>Arkamul twak</i>	<i>20 Tole (200 gm)</i>	<i>Vata Kapha nashak</i>	<i>Deepan, Pachan, Balya, Swedajanan, Rasayana, Kushtha, Kandu, Pliha, Gulma, Udar, Arsha.</i>
5	<i>Erandmul</i>	<i>20 Tole (200 gm)</i>	<i>Vatnashak</i>	<i>Vrusha, Deepan, Bhedaniya, Swedopag, Udar, Angamardaprashamana, Stanyajanan, Arsha. Krimivinashana, Mutrakrucchahar, Gulma-Bastishulhar Yakrut Pliha,</i>
6	<i>Dhattur panchang</i>	<i>20 Tole (200 gm)</i>	<i>Kaphanashak</i>	<i>Krumighna, Jwarghna, Kushtha, Twakdosha, Kandughna, Shwasshaman Akshepa, Unmad, Aamvat, Sthanshothaprashamana.</i>

DISCUSSION

Kuchala is a well known Spinal poison to modern science. Which is used in *Ayurvedic Pharmacopeia* from ancient period. Various *ayurvedic text* like *Bhavparakash, Rastarangini, Rasaratnasamucchaya* mentioned detail description of the plant, basic properties, therapeutic uses and medicinal preparations. Due some properties like *Ashukaritwa, Ushna, Teekshna Visha dravya* Get spread rapidly in the Body. So for the quick action of medicines many *Ayurvedic* formulations contain *Vishadravyas* like *Kuchala* as their ingredient. The crystalline alkaloid content, *Strychnine* primarily affect the motor nerves in the spinal cord which control muscle contraction. As we can see the particular ratio of *Kuchala* in all formulations, therefore we should not exceed the drug dose from their maximum dosage, because it may cause *Akshepa* and itself can be dangerous. *Rasatarangini* stated the detoxification process of *Kuchala*, So that Purified *Kuchala*, Can get used in medicinal formulations.

CONCLUSION

All the *Kuchala* containing formulations we can use in *Kapha-Vatajanya vikara*, due to its *Ruksha, Laghu guna*. Bioactivities of *Kuchala*- Hepatoprotective, Analgesic. It can be justified that due to its *Ayurvedic* pharmacodynamic properties like *Deepan, Pachana, Uttejaka, vaatshamaka* etc can be used effectively in management of *Vatavyadhi, Agnimandya, Naadidaurbalya*. Kalpa like *Ekangveer ras* OR *Agnitundi vati* should not use in *Pittanubandhi vikara, Garbhini* & in *Balak* due to its *Tikshna guna* and *Ushna veerya*.

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