

A Clinical Evaluation of Swarna Prashana and Swarna Yoga in the Management of Recurrent Episodes of Kasa (Cough)

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ABSTRACT

Kasa is a condition caused due to *Pranavaha Srotodushti*, primarily originating from *Amashaya*. As per Acharya Charaka, “**Kāsanāt Kāsaḥ**” — the term *Kasa* denotes the abnormal sound produced during the forceful expulsion of obstructed *Vayu*. Since childhood is the *Kapha*-dominant stage of life, children are more prone to disorders of the *Pranavaha Srotas*, with *Kasa* being one of the most common. Ayurvedic classics mention several effective formulations for managing this condition. In the present study, the efficacy of *Swarna Prashana* and *Swarna Yoga* was evaluated in two separate groups for the management of recurrent episodes of *Kasa*.

Aims and Objectives: To evaluate the efficacy of *Swarna Prashana* in the management of recurrent *Kasa*.

1. To evaluate the efficacy of *Swarna Yoga* in the management of recurrent *Kasa*.
2. To compare the clinical efficacy of *Swarna Prashana* and *Swarna Yoga* in recurrent *Kasa*.

Methods: This was a comparative clinical study with a pre-test and post-test design. A total of 40 patients diagnosed with *Kasa*, irrespective of gender, were randomly divided into two groups:

- **Group A:** Administered *Swarna Prashana* for 30 days.
- **Group B:** Administered *Swarna Yoga* for 30 days.

Results: The therapeutic outcomes were assessed using Wilcoxon’s rank sum test (within the groups) and Mann–Whitney U test (between the groups). The results indicated statistically significant improvement in both groups, with **Group A (Swarna Prashana)** showing better clinical outcomes than **Group B (Swarna Yoga)**.

Conclusion: Both *Swarna Prashana* and *Swarna Yoga* are effective in managing recurrent attacks of *Kasa* in children. However, *Swarna Prashana* demonstrated comparatively greater efficacy, making it a more promising intervention in recurrent respiratory conditions.

Keywords: *Kasa*, *Swarna Prashana*, *Swarna Yoga*, *Cough*, *Respiratory Illness*, *Ayurveda*.

1. INTRODUCTION

A healthy start in life is important to every child. The first few years of life after birth is especially critical and of immense importance for the proper development and healthy life of child. Certain diseases may not be life threatening but increasingly annoying and irritating to the individual in his routine activity. More over when neglected they may lead to a series of complications later. A very common clinical condition, *Kasa* is one among them increasingly prevalent now a days, demanding greater concern over it².

Cough is the fifth most common symptom for which patients seek care³. Cough occurs in association with acute upper respiratory infection, acute pharyngitis, acute bronchitis and chronic sinusitis, all of which rank among the top 10 reasons for visiting family physicians⁴. The leading cause of recurrent attack of cough in children throughout the world is increased environmental exposure. Childhood being the *Kapha* predominate age children are more often to suffer with various *PranavahaSrotasVikara*. *Kasa* is one such condition mentioned in our classic for which our literature has numerous effective formulations. Plenty of research works have been carried out in relation to the *Shamana* treatment as directed in *Ayurveda* and their therapeutic effect is proved.

Kasa is the disease of *PranavahaSrotas* and having several features similar to Cough, Hence, *Kasa* can be correlated with Cough. In modern medical science cough is defined as a sudden, often, involuntary, forceful release of air from the lungs⁵. Respiratory complaints are clearly defined clinical conditions in modern medical science, categorized under the broad term Respiratory Tract Disorders. In the conventional medicine Cough is managed with Anti tussive, corticosteroid, Anti biotics, meanwhile long-standing use of these medications may give rise to many adverse effect and re-occurrence of signs and symptoms.

In the classical text the line of treatment *Swarna Prashana* and *Swarna Yoga* are one such Herbo-mineral combination mentioned in *Kashyapa Samhita*, *Sutra Sthana*, *Lehya Adhaya* and *Sushruta Samhita*, *Shareera Sthana* respectively proved to be immune booster formula against recurrent attack of *Kasa*⁶⁻⁷.

2. METHODOLOGY

In present study the drugs *Swarna Prashana* and *Swarna Yoga* were tested in the paediatric patients suffering from the disease - Recurrent attack of *Kasa* with the following objectives and methodologies.

Source of Data:

1. **Literary source:** All the available literary data of recurrent attack of *Kasa* will be taken including *Ayurvedic* classic and contemporary sciences including published scientific papers in reputed journals both in print and online media.
2. **Sample source:** Patients of *Kasa* will be randomly selected, irrespective of sex, caste, religion from OPD and IPD of *Kaumarabhritya* Department of Govt. *Ayurvedic* College and Hospital Patna.
3. **Drug source:** The formulation *Swarna Prashana* and *Swarna Yoga* will be prepared in State *Ayurvedic* & Unani Pharmacy, Patna attached to Govt. *Ayurvedic* College, Patna as per the standard method of preparation of *Lehana Kalpana* according to AFI guideline⁸. The prepared drug will be stored in 30 ml container along with dropper and the dose to be given will be decided according to age of the patients.

4. Study design:

- **Study Type** : Interventional.
- **Allocation** : Randomized.
- **Endpoint Classification** : Efficacy Study.
- **Intervention Model** : Double Group Assignment.
- **Primary Purpose** : Treatment.
- **Masking** : Open Label.
- **Treatment duration** : 30 Days.
- **Total duration of study** : 30 Days.

Diagnostic criteria:

- Cough with recurrent attacks – productive or dry.
- Symptoms explained in classics and modern text.
- *Kasa Vega* (Frequency of Cough Bouts)
- *Sukapurn Galasyata* (Heaviness of Throat)
- *Kantha Kandu* (Throat Irritation)
- *Aruchi* (Anorexia)
- *Loma Harsha* (Horripilation)

Inclusion criteria -

1. Children of age group of 6th month to 5 years.
2. Cough with frequent attacks at least monthly once.
3. Simple cough associated with Tonsillitis; Pharyngitis will also be included.

Exclusion criteria -

1. Cough with other systems involved.
2. Pulmonary tuberculosis, COPD, Bronchiectasis & Tropical eosinophilia or with any other systemic disorders.
3. Acute or severe exacerbation & status asthmatics that require immediate intervention.
4. Cough with no recurrence or having cough for the first time

Interventions:

40 patients who fulfilled the inclusion criteria were selected and randomly assigned into 2 groups as Group-A and Group-B comprising of 20 patients each.

1. Swarna Prashana: for Group A–

a. Ingredients of SwarnaPrashana:

Table No.1:-Ingredients of SwarnaPrashana: (Each 10 ml contain)-

<u>Sl. No.</u>	<u>Content:</u>	<u>Quantity:</u>
1.	<i>Madhu:</i>	6 ml
2.	<i>Murchita Ghrita:</i>	4 ml
3.	<i>Swarna Bhasma:</i>	4 mg

Sl. No. – Serial Number

b. SwarnaPrashana Preparation:

In *Swarna Prashana* above ingredients like *Murchita Ghrita*, *Madhu* and *Swarna Bhasma* mixed and *Mardana* for 12 hours. Prepared *Swarna Prashana* was stored in the 10ml bottles with dropper for the use.

- c. Dose of *Swarna Prashana*: Based on Clark's formula.
- d. Timing of *Swarna Prashana*: Early morning in empty stomach.

2. Swarna Yoga for Group B–

a. Ingredients Of Swarna Yoga:

Table No.2:-Ingredients of Swarna Yoga: (Each 10 ml contain)-

<u>Sl. No.</u>	<u>Content:</u>	<u>Quantity:</u>
1.	<i>Vacha Churna</i>	62.5 gm
2.	<i>Kustha Churna</i>	62.5 gm
3.	<i>Madhu</i>	600 ml
4.	<i>Murchita Ghrita</i>	400 ml
5.	<i>Swarna Bhasama</i>	400 mg

b. Swarna Yoga Preparation:

In *Swarna Yoga* above ingredients are mixed & made into *Madhayam Paka* by *Snehapaka Vidhi* with reference to *Sharangdhar Samhita*.

400ml of prepared *Ghrita* + 600ml of *Madhu* + 400mgs of *Swarna Bhasma*. *Mardana* is given for 12 hours. Thus, prepared *Swarna Yoga* was stored in the 10ml bottles with dropper for the use.

- c. Dose of *Swarna Yoga*: Based on Clark's formula.
- d. Timing of *Swarna Yoga*: Early morning in empty stomach.

Duration of the study:

Table No. 3:Duration of the study for both Group A and Group B-

Group	Number of Patient	Procedure	Trial Duration	Follow up
Group A	20	<i>Swarna Prashana</i>	30 Days	On 15 th day and 30 th Day
Group B	20	<i>Swarna Yoga</i>	30 Days	On 15 th day and 30 th Day

Chart for grading of Subjective Criteria –

Table No.4:Gradings of Subjective Criteria for Group A and Group B-

Sl. No.:	Criteria	Assessment Grading
1.	<i>Kasa Vega</i> (Frequency of Cough Bouts)	0 = Absent = 0 Bouts / Hour 1 = Mild = 1 – 3 Bouts / Hour. 2 = Moderate = 4 – 6 Bouts / Hour. 3 = Severe = > 7 Bouts / Hour.
2.	<i>SukapuraGalasyata</i> (Heaviness of Throat)	0 = Absent. 1 = Mild. 2 = Moderate. 3 = Severe.
3.	<i>Kantha Kandu</i> (Throat Irritation)	0 = Absent = 0 Times / Hour. 1 = Mild = 1 – 3 Times / Hour. 2 = Moderate = 4 – 6 Times / Hour. 3 = Severe = > 7 Times / Hour.
4.	<i>Aruchi</i> (Anorexia)	0 = Absent = 0. 1 = Mild = 1 – 2 / Hour Feed. 2 = Moderate = 3 – 4 / Hour Feed. 3 = Severe = > 5 / Hour Feed.
5.	<i>Loma Harsha</i> (Horripilatio)	0 = Absent = 0. 1 = Mild = 1 – 3 Times / Day. 2 = Moderate = 4 – 6 Times / Day. 3 = Severe = > 7 Times / Day.

Chart for gradings of Objective criteria –

Table No.5:Gradings of Objective Criteria for Group A and Group B-

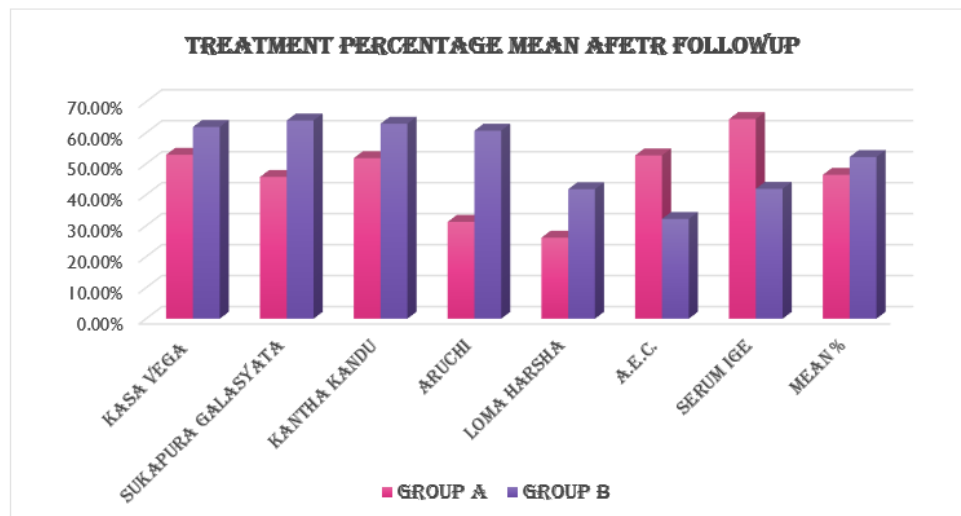
Sl. No.	Criteria	Assessment Grading
1.	Absolute Eosinophil Count - A.E.C.	0 = Negative = <500. 1 = Mild = 501 to 750.

		2 = Moderate = 751 to 1000. 3 = High = 1001 to 1250. 4 = Very High = 1251 to 1500.
2.	Serum IgE	0 = Absent = < 0.35. 1 = Mild = 0.35 to 25. 2 = Moderate = 26 to 50. 3 = High = 51 to 75. 4 = Very High = 76 to 100.

Overall Assessment:

Table No. 6:Overall Assessment of Treatment Percentage Mean of all Criteria:

Sl. No.	Parameters:	Mean Change Treatment %	
		Group A	Group B
		After Treatment	After Treatment
Subjective Parameters:			
1.	<i>Kasa Vega</i>	52.94%	61.90%
2.	<i>SukapuraGalasyata</i>	45.76%	64.00%
3.	<i>Kantha Kandu</i>	51.85%	62.96%
4.	<i>Aruchi</i>	31.25%	60.71%
5.	<i>Loma Harsha</i>	26.15%	41.81%
Objective Parameters:			
6.	A.E.C.	52.72%	32.20%
7.	Serum IgE	64.44%	41.93%
Total Mean %		46.44%	52.21%



Graph No.1:Overall Assessment of Treatment Percentage Mean of all Criteria.

3. DISCUSSION

Two formulations have been taken for research i.e. *Swarna Prashana* and *Swarna Yoga*. The drug *Swarna Prashana* contains *Murchita Ghrita*, *Madhu*, and *Swarna Bhasma* and other drug *Swarna Yoga* Which contains *Murchita Ghrita*, *Madhu*, *Kustha* and *Vacha*.

Swarna Prashana: *Swarna Prashana* having *Swarna Bhasma*, *Madhu*, *Ghrita* having *Tridosha* *hara*, *Vata Pitta Hara*, *Vrushya*, *Deepana* and *Pachana* properties said to bring about its effect in reduction of signs and symptoms in *Kasa Vega*, *Sukapura Galasyata*, *Kanta Kandu*, *Aruchi* and *Loma Harsha* by delivering their respective *Guna* it does *Kapha vatahara*.

Karmukata of Swarna Prashana:

Swarna Prashana having three ingredients *Swarna Bhasam*, *Madhu*, *Ghrita*.

Swarna Bhasma is a powerful *Rasayana* that boosts immunity. It enhances the body's natural defence mechanisms, helping children resist infections that trigger recurrent *Kasa*. Scientific studies on gold nanoparticles, such as those found in *Swarna Bhasma*, demonstrate their potential to influence immune responses. Gold nanoparticles conjugated with antigens have been shown to enhance T-cell activation significantly, with a tenfold increase in proliferation compared to native antigens. This highlights their potential in targeted immune activation, such as against *Mycobacterium tuberculosis* and HIV. The activation of macrophages and pathogen elimination through these mechanisms holds promise for developing advanced vaccines.

Madhu is another crucial component, contributing its properties as *Tridosha* *hara*, *Hrudya*, *Chakshusya*, and *Varnya*. It is also antibacterial and rich in antioxidants.

Go Ghrita is another essential ingredient is *Murchita*, which has properties such as *Vata-Pittahara*, *Soumya*, *Vrushya*, *Medhya*, and *Smriti Karaka*. It also prevents the formation of free radicals and contains Linoleic acid, known for its antioxidant effects. This formulation has a *Madhura-Kashaya Rasa*, which imparts sweetness. Its dominant properties include *Laghu*, *Snigdha* and the formulation exhibits *Vata-Kapha hara* activity, making it effective in balancing vitiated *Vata* and *Kapha*. Its therapeutic properties include *Deepana*, *Pachana*, *Vatanulomana*, *Balya*, *Rasayana*, *Vrushya*, *Varnya*, *Shwasa Kasahara*, *Jwaranashaka*, *Bruhmana* and *Vajikara*, etc.

The combination of ingredients in *Swarna Prashana* provides a balanced synergy of *Rasa Panchaka* properties. The *Deepana* and *Pachana* actions help in digesting *Saama Kapha*, enhancing *Jatharagni*, *Rasa Dhatvagni*, and *Bhutagni*, which in turn alleviate *Srotorodha* in both *Annavaha* and *Pranavaha Srotas*. Many of its components are specifically indicated for conditions such as *Shwasa*, *Kasa*, and *Peenasa*, all of which originate in the *Pranavaha Srotas*.

Prashana is a significant practice described under *Jatakarma* rituals in *Ayurvedic* texts. Among the classical authors, *Acharya Kashyapa* provides the most detailed explanation of *Prashana*, including its procedure, indications, contraindications, ingredients, formulations, and benefits.

Kashyapa emphasizes its role in enhancing *Medhya* and *Agnibala Vardhaka*. while promoting *Aayushya*, *Mangala*, *Punya*, *Vrishya*, *Varnya* and *Grahapaham*. It is stated that if *Swarna Prashana* is given daily for one month, the child becomes highly intelligent and resistant to recurrent illnesses - *Vyadhibhi Na Cha Drushyate*". Furthermore, if administered for six months continuously, the child develops exceptional memory retention, being able to recall everything they hear.

Acharya Sushruta explains that *Swarna Prashana* aids in the physical and mental development of a child, enhancing both *Bala* and *Buddhi*. Similarly, *Acharya Vagbhata* mentions its benefits in increasing *Medha*, *Ayu*, and *Bala*. The *Acharyas'* references to improved *Bala* are interpreted in the modern context as *Vyadhi Kshamatva*. This study focuses on *Swarna Prashana's* potential in boosting immunity and overall strength, as repeatedly highlighted in classical *Ayurvedic* texts.

Swarna Yoga: *Swarna Yoga* preparation having *Swarna Bhasma*, *Madhu*, *Ghrita*. It is a *Sandhanap* reparation i.e., it having *Agneya*, *Teekshna*, *Ushna Guna* and most of the ingredients in them are *Ushna Veerya* which have a combined effect of *Gunas* of *Sandhana Varga*, there by showing its effect at the level of skin.

Karmukata of Swarna Yoga:

Swarna Yoga Drug having five ingredients *Swarna Bhasam*, *Madhu*, *Ghrita*, *Vacha*, *Kustha*.

Vacha, due to its *Katu-Tikta Rasa*, *Ushna Virya*, and *Tikshna Guna*, acts as a powerful stimulant for the nervous and digestive systems. It is highly effective in clearing excess *Kapha*, improving speech, cognition, and treating respiratory and digestive ailments. Its unique *Prabhava* makes it a potent *Medhya* and *Lekhana* drug, beneficial for neurological and metabolic disorders. It is having special *Karma* like *Medhya*, *Shirovirechana*, *Deepana* & *Pachana*, *Krimighna*, *Kaphavatahara*, *Srotoshodhana*.

Kustha, due to its *Katu-Tikta Rasa*, *Ushna Virya*, and *Tikshna Guna*, acts as a potent detoxifier, antimicrobial, and anti-inflammatory agent. It is highly beneficial in skin disorders, respiratory conditions, and digestive issues. Its unique *Prabhava* makes it an effective *Kushtaghna* and *Kandughna*, making it a prime choice for dermatological and allergic conditions. It is

having special action like *Deepana* & *Pachana*, *Kandughna*, *Kushtaghna*, *Krimighna*, *Vata-Kaphahara*, *Shothahara*, *Vishaghnadue* to special *Karma*, it acts on *Kasa roga*.

The *Swarana yoga* formulation has a dominant *Madhura-Kashaya Rasa*, contributed by ingredients such as *Swarana*, *Madhu*, *Murchita Go Ghrita*, *Kustha*, *Vacha*. It is characterized by *Laghu* and *Snigdha* properties, with predominant *Vata-Kaphahara* action. The formulation combines *Deepana*, *Pachana*, and *Vatanulomana* properties, effectively targeting the root causes of *Kasa*, particularly *Saama Kapha*.

By stimulating *Jatharagni*, *Rasagni*, and *Bhutagni*, the formulation digests *SaamaKapha* and reduces *Srotorodha* caused by inflammation and *Ama*. Its ingredients, which are known for their *Shothahara* action, restore the natural flow of *Vata* in the *PranavahaSrotas*. Components of *Swarana yoga* are commonly indicated for conditions such as *Shwasa*, *Kasa*, *Pachana*, *Vatanulomana*, *Balya*, and *Rasayana*, *Vrushya*, *Varnya*, *Shwasa Kasahara*, *Jwaranashaka*, *Bruhana*, *Vajikara* etc.

4. CONCLUSION

In *Ayurveda*, *Kasa* is mentioned as a separate *Vyadhi* and also as a symptom. As a symptom, *Kasa* completely correlates with cough reflex but as disease, it cannot be correlated with any single respiratory disease in modern medical science. Cough is one of the most common symptoms for which patients seek medical advice globally. The condition of *Kasa* not only affects the child but also causes significant distress to parents until it is effectively treated.

In Ayurvedic literature, there are several references to *Svarnaprashana*, which is described as having multiple benefits, including improving strength (*Balya*), nourishment (*Brumhana*), rejuvenation (*Rasayana*), intellect (*Medhya*), and immunity (*Vyadhikshmatva*). Acharya Kashyapa elaborates on its effects, stating that it enhances intelligence, digestion, and vitality, and can prevent recurrent illnesses. Continuous administration for one month is believed to make a child highly intelligent and resistant to diseases, while six months of use is said to enhance memory retention.

The present study focused on children aged 6 months to 5 years who presented with *Kasa* (cough). A total of 40 patients were divided into two groups: Group A received *Swarana Prashana*, while Group B was administered *Swarana Yoga*. The medication was given orally in the early morning on an empty stomach using a dropper. The intervention lasted for 30 days, followed by a one-month observation period. No Adverse effects were observed in both the groups during the course of Study.

In the present study, result shows that *Swarna Yoga* (Group-B) is statistically more effective in Cough bouts (52.94%) *SukapurnaGalasyatha* (46.76%), *Kantha Kandu* (51.85%), *Aruchi* (31.25%), *Loma Harsha* (26.15%) than the *Swarna Prashana* (Group A) and *Swarna Prashana* (Group-A) is statistically more effective in Absolute Eosinophil Count (A.E.C) (52.72%) and Serum IgE levels (64.44%) than the *Swarna Yoga* (Group B).

Comparison of study:

The effect of treatment has showed statistically highly significant results in both the groups with $p\text{value} < 0.001$ in all most all the parameters. On comparison between the groups, Group B has a better result over Group A based on the mean rank value, which can be concluded that, *Swarna Yoga* has shown better effect in reducing the symptoms of recurrent attack of *Kasa* over *Swarna Prashana*.

The effect of treatment was Statistically Non-Significant between the Groups - Group A and Group B with respect to all 7 assessment parameters.

Statistically: However, statistically when mean rank and mean were compared between groups. Group A was comparatively better than Group B in 2 parameters like A.E.C. and Serum IgE. Group B was comparatively better than Group A in 5 parameters like *Kasa Vega*, *SukapuraGalasyata*, *Kantha Kandu*, *Aruchi* and *Loma Harsha*.

Overall Treatment Assessment After Treatment (BT-AT):

- BT-AT within Group A is 46.44%.
- BT-AT within Group B is 52.21%.
- BT-AT between Group A is 47% & Group B is 53%.

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