

# A Comparative Clinical Study of Talisadi Churna Prepared by Classical Method and Variant Prepared by Replacing Sharkara Using *Stevia rebaudiana* in Management of Kasa

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## Abstract

Ayurveda is the most ancient and traditional system of medicine in India. Nowadays, many people of all age groups are suffering from **Kasa Roga**. In modern science, it is called a cough, which is a voluntary and involuntary act that clears the throat and breathing passage. **Talisadi Churna** is one of the widely used effective formulations frequently prescribed in cough. It has *Talisapatra*, *Shunti*, *Pippali*, *Maricha*, *Vamshalochana*, *Ela*, *Twak*, and *Sharkara* as ingredients. In Talisadi Churna, the proportion of *Sharkara* is twice that of the rest of the ingredients. In recent times, the incidence of type 2 diabetes mellitus has resulted in increased attention. Therefore, the present study is intended to evaluate the action of Talisadi Churna prepared by replacing *Sharkara* with *Stevia rebaudiana* in the management of **Kasa** and to study the effect of Talisadi Churna on blood glucose levels in diabetic patients.

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## Introduction

**Kasa** is one of the most common symptoms of respiratory diseases. The to-and-fro movement of air through **Pranavaha Srotas** is the vital sign of life, the normalcy of which suggests good health. The human respiratory system is mostly exposed to the environment, and due to pollution, it leads to various respiratory tract diseases; Kasa is the most common among them.

Kasa is a disease which characteristically produces a typical sound of a broken bronze vessel<sup>[1]</sup>. In the pathogenesis of the disease, there is obstruction of **Prana** and **Udana Vayu** due to various reasons. In Ayurveda, Kasa is divided into five types: **Vataja**, **Pittaja**, **Kaphaja**, **Kshayaja**, and **Kshataja**. Acharya Charaka has explained the *lakshanas* of Kasa, which can correlate with cough in modern science.

Amongst all treatment forms available in Ayurvedic literature, oral drug administration, i.e., the **Shamana** line of management, is quite important, most preferable, and effective. By looking at the individual herbal constituents of Talisadi Churna, it appears that this combination might be effective in combating the signs and symptoms associated with Kasa. In Talisadi Churna, the proportion of *Sharkara* is twice that of the rest of the ingredients<sup>[2]</sup>.

In recent times, the incidence of type 2 diabetes mellitus has resulted in increased attention. Globally, type 2 diabetes mellitus is considered a common disease. Dietary habits are a major factor for the rising incidence and risk factors associated with diabetes mellitus<sup>[3]</sup>. Among them, sugar consumption is important. There are many different types of sugar, and it is used in almost everything we consume. Artificial sugars are on the rise, but these contain chemicals that may not be good for us. Ayurveda has a holistic approach towards medicine. Even though usage of refined sugar, which has high caloric content, is common in prescribed formulations, it is difficult to prescribe among type 2 diabetes mellitus patients.

Sugar can contribute to our health in a good way; however, if abused, it can cause serious health issues such as diabetes, obesity, unhealthy skin, arthritis, and hyperactivity in children. These sugars, along with contributing calories, remain as risk factors for chronic diseases such as hypertension and cardiovascular disease<sup>[4]</sup>. Today, we are searching for better alternatives to chemical-based artificial sweeteners such as **Stevia**. In the end, our society needs to lower our intake of sugar in order to better our health.

*Stevia rebaudiana* is a natural alternative to sugar. Studies suggest that it does not raise blood sugar levels, making it safe for people with diabetes<sup>[5]</sup>. Traditionally, stevia plant leaves were used to sweeten beverages and medicine for more than 1500 years by the Guarani people of South America<sup>[6]</sup>. Stevia leaf contains natural sweet compounds called **steviol glycosides** with relative sweetness of 30 times that of refined sugar<sup>[7]</sup>. The Food Safety and Standards Authority of India (FSSAI) has issued approval for stevia as a sweetener<sup>[8]</sup>. Pure stevia is considered as Generally Recognized As Safe (GRAS) by the US FDA<sup>[9]</sup>.

Therefore, the present study is intended to evaluate the action of Talisadi Churna prepared by replacing *Sharkara* with *Stevia rebaudiana* in the management of Kasa and to study the effect of Talisadi Churna on blood glucose levels in diabetic patients.

## Objectives

1. **To compare both samples of Talisadi Churna clinically in patients of Kasa.**
2. **To study the effect on blood glucose levels by both the samples of Talisadi Churna in diabetic patients.**

## Materials and Methods

### Sample Size and Grouping

**Sample Size:** A total of 40 patients who fulfilled the diagnostic and inclusion criteria of either sex were selected for the comparative clinical study.

**Grouping:** The 40 patients were assigned into four groups: **A1, A2, B1, and B2.**

- **Group A1:** 10 non-diabetic patients with *lakshanas* of Kasa were assigned to this group.
- **Group A2:** 10 patients of type 2 diabetes mellitus with *lakshanas* of Kasa were assigned to this group.
- **Group B1:** 10 non-diabetic patients with *lakshanas* of Kasa were assigned to this group.
- **Group B2:** 10 patients of type 2 diabetes mellitus with *lakshanas* of Kasa were assigned to this group.

### Intervention:

- **Group A1 and A2:** Given **Compound A** (Talisadi Churna prepared by classical method with *Sharkara*).
- **Group B1 and B2:** Given **Compound B** (Talisadi Churna prepared by replacing *Sharkara* with *Stevia rebaudiana*).

### Diagnostic Criteria

- Symptoms explained in classical Ayurvedic texts and modern medical literature.

### Inclusion Criteria

- Patients presenting with *lakshanas* of Kasa.
- Patients of Kasa with chronicity less than 15 days duration.
- Patients irrespective of sex, aged above 15 years and below 70 years.
- Patients known to have type 2 diabetes mellitus presenting with *lakshanas* of Kasa.
- Diabetic patients on unchanged hypoglycemic treatment at least 3 months prior to inclusion.

### Exclusion Criteria

The following conditions were excluded from the study:

- **Kshataja Kasa**
- **Kshayaja Kasa**
- Kasa with sub-acute condition and more than 15 days of chronicity history.
- Kasa as *Anubandha Lakshana* in other systemic diseases except type 2 diabetes mellitus.
- Type 2 diabetes patients with associated complications.

### Parameters

Subjective and objective parameters of baseline data and after-treatment data were statistically analyzed.

### Subjective Parameters

- **Kasa:** Cough
- **Kanthe Kandu:** Itching in throat
- **Stevana:** Expulsion of sputum

### Objective Parameters

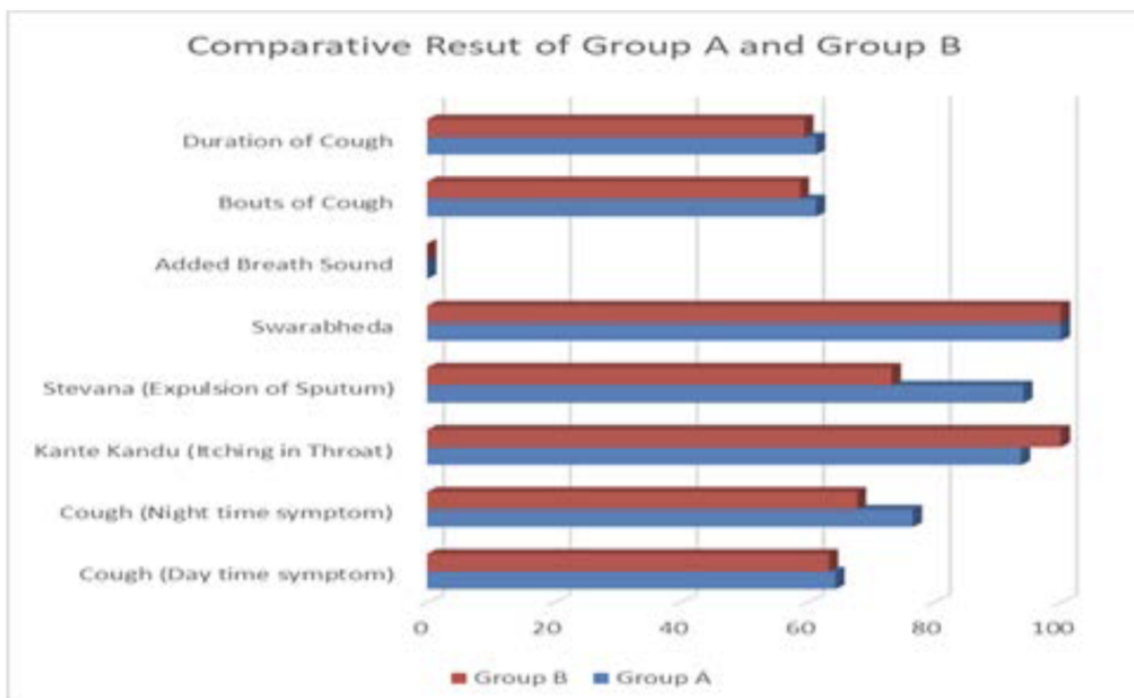
- **Frequency of bouts of cough**
- **Duration of bouts of cough**
- **Blood glucose levels** (in diabetic patients)

## Observations and Results

### Clinical Results

#### Comparative Results of Both Groups

- Comparative analysis of the overall effect of the treatments in both the groups was done statistically using the unpaired t-test.
- The test shows that the treatment is more significant in **Group A** when compared to **Group B**.
- **Group A** overall result is **72.28%** improvement.
- **Group B** overall result is **68.48%** improvement.
- In both groups, blood glucose patterns showed no significant changes after the treatment.



## Discussion

### Overall Effect of the Therapy

- The comparison showed that the Talisadi Churna prepared by replacing *Sharkara* with *Stevia rebaudiana* is almost equal to Talisadi Churna in alleviating the main symptom of Kasa.
- The Talisadi Churna group (with *Sharkara*) is better in comparison to the variant prepared with *Stevia rebaudiana* in managing **Stevana** (expulsion of sputum) and in reducing nighttime symptoms of Kasa.
- Talisadi Churna possesses **Katu Rasa** (pungent taste), **Ushna Virya** (hot potency), **Katu Vipaka**, and **Kapha-Vataghna** properties predominantly, along with **Vata Pittahara**, **Sheeta Virya** (cold potency), and **Madhura Vipaka** (sweet post-digestive taste), which naturally antagonize **Shwasa Roga**, a Kapha-Vata predominant disease.
- Stevia has anti-inflammatory and immunomodulatory actions<sup>[10]</sup>, which may enhance the action of Talisadi Churna and mask the pungent taste of other drugs.

## Conclusion

- Comparative analysis of the overall effect of the treatments in both the groups was done statistically. Both groups exhibited statistically significant results in reducing the intensity and frequency of cough.
- Blood glucose patterns showed no significant changes after the treatment in both groups. From these results, it can be concluded that Talisadi Churna does not significantly affect blood sugar levels in diabetic patients.
- Future studies with larger sample sizes and advanced parameters may further evaluate the present findings.

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