



## Research Article

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### EFFICACY OF *TRISUGANDHA ARKA KAVALA* IN THE MANAGEMENT OF *MUKHADOURGANDHYA* WITH REFERENCE TO HALITOSIS

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#### ABSTRACT

*Mukhadourgandhya* is mentioned in many Ayurvedic diseases; likewise, halitosis can be seen in many diseases. *Mukhadourgandhya* (halitosis) is quite an embarrassing and bothersome condition. Causative factors for *Mukhadourgandhya* are oral unhygienic, dental causes, throat disorders and non-oral causes like gastritis, etc. Among 10 people, 7 of them show this condition. Using the chlorohexidine solution for gargling shows various side effects. In this present study, *Trisugandha Arka*, an Ayurvedic formulation mentioned in the Ayurvedic text on *Mukhadourgandhya*, was selected, and the *Arka* formulation was prepared as mentioned in the text. *Kavala* was selected as the mode of administration as this procedure is indicated in *Mukhadourgandhya* condition. 5 patients of *mukhadourgandhya* (halitosis) condition were given *Trisugandha Arka* for *Kavala* for 7 days. The assessment of the condition was done before and after treatment. The result of the study was assessed after comparing the condition before and after the completion of the study. The *Trisugandha Arka* has aromatic oil and antimicrobial action and *Vata-Kapha Hara* properties which prove effective in the condition of *Mukhadourgandhya*.

**Keywords:** *Mukhadourgandhya*, Halitosis, *Trisugandha Arka*, *Arka kalpana* (Distillation), *Kavala*.

#### INTRODUCTION

*Mukhadourgandhya* is a condition occurs due to vitiation of *Kapha* and *Pitta* Dosha. *Sama Kapha*, i.e., association of *Kapha* with *Ama* and *Visra* (an attribute of *Pitta*) are responsible for *Mukhadourgandhya*<sup>1</sup>.

Halitosis is a Latin word derived from *halitus*, which means breathed air and *osis* means pathological alteration. Halitosis is defined as an unpleasant odour from the mouth, also known as foul odour and this condition is seen in any age group and gender. It is a condition formed by volatile compounds like sulphur compound, aromatic compound, nitrogen-containing amines, short-chain fatty acids, alcohol or phenyl compounds and ketones in the oral cavity. 90% of the roots of halitosis are of oral origin, 9% include non-oral reasons such as the respiratory, gastrointestinal and urinary systems and 1% are dietary and drug. During exhalation, the oral cavity temperature reaches up to 37 °C and humidity up to 96%, which is a favourable condition for bacterial growth. Volatile sulphur compounds (VSC) are mainly leading cause of intra-oral halitosis. Reduction in saliva flow causes an increase in a sulphur compound in the oral cavity, thus leading to halitosis<sup>2</sup>. Some drugs of antidepressants, antipsychotics, diuretics and hypertensive also cause a reduction in saliva secretion.

Non-oral cavity causes include dietary reasons like garlic, onion and spicy food, while gastric ulcer caused by *H. pyloric* bacteria causes bad odour in the mouth. Even a low-carb diet leads to keto-breath. Gastroesophageal reflux disease (GERD) is also associated with halitosis. Drugs like phenytoin, cyclosporine or calcium channel blockers also increase the risk of foul odour.<sup>3</sup>

In this study, the *Trisugandha Arka* formulation is used in *Mukhadourgandhya* (Halitosis) condition. This *Trisugandha Arka* formulation is mentioned in Chapter 4<sup>th</sup> of *Arkaprakasana*, *Hindi Tikka* of Dr *Tripati*, prescribed on *Mukhadourgandhya*. It consists of 3 herbs *Ela* (*Elettaria cardamomum*), *Twak* (*Cinnamomum zeylanicum*) and *Tejapatra* (*Cinnamomum tamala*)<sup>4</sup>. The *Arka* preparation method was selected over other Ayurvedic preparation like *Kwatha*, *Hima*, and *Phanta Kalpana* due to their short shelf-life, while *Arka Kalpana* (Distillation) has a shelf life of 1 to 2 years.

In *Kavala*, the medicinal drug is moved from side to side in the oral cavity for a stipulated time. In the indication of *Kavala*, *Mukhadourgandhya* is mentioned according to *Acharya Sushruta*. Thus, this procedure was selected as the mode of administration of the drug.

**Aim:** To study *Trisugandha Arka*'s effect in managing *Mukhadourgandhya* (Halitosis).

**Objectives:** To give relief to the patient from *Mukhadourgandhya* (Halitosis).

#### MATERIALS AND METHODS

##### Method of preparation of *Trisugandha Arka* (Standard Operating Procedure of *Trisugandha Arka*)

Step 1: Raw materials were purchased from the market. Identification and authentication of the raw drugs were made.

Step 2: All three raw drugs (bark of *Twak*, *phala* of *Ela* and *patra* of *Tejapatra*) are taken in equal quantity and cleaned well. All were crushed into small particles and soaked in double the amount of water for 8 *Prahara* (24 hours) in a steel container. Soaked drugs were transferred into one of the containers of *Tiryak Patana Yantra*, which was on the burner and 10 parts water was added to it and heated on *Manda Agni*. The vapours from one container are

converted into a liquid state in 2<sup>nd</sup> container by a condensation process. Arka extracted from this procedure was collected in a glass container<sup>5</sup>.

Step 3: *Trisugandha Arka* was poured through a sieve of 60 mesh size, and small particles present in the formulation were separated and the sieved drug was packed in a plastic container of 100 ml.



Picture 1: Raw materials (*Ela*, *Twak* and *Tejopatra*)



Picture 2: *Tiryak Patana Yantra*



Picture 3: *Trisugandha Arka*

Table 1: Properties of drugs used for *Trisugandha Arka*<sup>7,8,9</sup>

Drugs	Gunadhrama	Karma	Active Principle	Action
<i>Ela</i> ( <i>Elletaria cardomomum</i> ) Zingiberaceae	Rasa – <i>Katu</i> . Vipaka – <i>Katu</i> . Virya – <i>Shita</i> . Guna – <i>Ruksha, Laghu</i>	<i>Ruchikara</i> , <i>Kaphahara, Hrudya</i> .	1,8 – cineole, alpha terpinyl acetate, sabinene, beta linalool.	Antioxidant, anti-inflammatory, antidiabetic, antimicrobial, antiviral and gastroprotective activities
<i>Twak</i> ( <i>Cinnamomum zeylanicum</i> ) Lauraceae	Rasa- <i>Katu, Tikta</i> . Vipaka – <i>Katu</i> . Virya – <i>Ushna</i> . Guna – <i>Laghu, Ruksha</i> .	<i>Mukha – Sodhana</i> , <i>Shirashoola</i> , <i>Ruchikara, Pitta-Kaphahara</i> .	E-Cinnamyl acetate, E-Caryophyllene	Antioxidant property.
<i>Tejapatra</i> ( <i>Cinnamomum tamala</i> )	Rasa – <i>Madhura, Katu, Tikta</i> . Vipaka- <i>Katu</i> . Virya – <i>Ushna</i> . Guna - <i>Ushna, Tikshna</i>	<i>Kapha Vata Hara</i> , <i>Ruchikara</i> , <i>Hrullasa</i> .	Beta-caryophyllene, linalool, caryophyllene oxide, eugenol, cinnamaldehyde, trans cinnamyl acetate, ascabin.	Antidiabetic, antioxidant, antidiarrheal, antihyperlipidemic, hepatoprotective, gastroprotective, antibacterial and immune modulatory activities

#### Mode of Administration and dose of Drug

*Kavala* of 10 ml *Trisugandha Arka* diluted with 30 ml of water quantity given to patients once a day (morning) for 7 days and assessment of the patients was done on the 0<sup>th</sup>, 3<sup>rd</sup> and 7<sup>th</sup> day and follow-up of the patients was taken on 3<sup>rd</sup> and 7<sup>th</sup> day.

#### Selection of Patients

To achieve the objective of the present study, total 5 patients having the condition of *Mukhadourgandha*, irrespective of past illness, were selected from Shalakyta tantra OPD after taking consent from the patients according to the International Conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP). Patients were selected regardless of age, gender, religion, or occupation.

#### Inclusion Criteria

1. Age group 18 to 60 years.
2. Having pathology of dental.
3. The patient has tonsillitis, pharyngitis, *Mukhapaka*, etc.

#### Exclusion Criteria

1. Pregnant and lactating women.
2. Patient suffering from oral carcinoma.
3. The patient has a history of hypertension and Diabetes mellitus.

#### Criteria Of Assessment

Subjective parameters.

1. Score 0: No odour.
2. Score 1: Barely noticeable.
3. Score 2: Slight but noticeable.
4. Score 3: Moderate.
5. Score 4: Strong.
6. Score 5: Extremely strong.<sup>6</sup>

The scoring system was adopted to assess the symptom before the commencement and after the completion of the study.

#### RESULTS AND DISCUSSION

All five patients who had the condition of *Mukhadourgandhya* got significant relief irrespective of its causes. Thus, *Kavala* of *Trisugandha Arka* has a considerable effect in treating the

condition of *Mukhadourgandhya*.

In the present study, observation was made by studying the clinical features of 5 patients.

**Table 2: Scoring of patients before and after treatment**

Clinical features of 5 patients	0 <sup>th</sup> Day	3 <sup>rd</sup> Day	7 <sup>th</sup> Day
Patient 1	3	2	0
Patient 2	4	3	1
Patient 3	3	1	0
Patient 4	2	1	0
Patient 5	4	3	0

*Mukhadourgandhya* is a condition which is quite irritating for patients. *Trisugandha Arka* was prescribed for treating *Mukhadourgandhya* (halitosis). The formulation contains *Ela*, *Twak* and *Tejapatra*, where the active principle of *Ela* is 1,8-cineole, which is a significant component and has potent antiseptic action which kills the bacteria that produce a foul odour and other components have antioxidant, anti-inflammatory, antidiabetic, antimicrobial, antiviral and gastroprotective activities<sup>7</sup>. Leaves of *Tejapatra* have aromatic attributes like beta-caryophyllene, linalool, caryophyllene oxide, eugenol, etc. considered to have antidiabetic, antioxidant, antiarrhythmic, antihyperlipidemic, hepatoprotective, gastroprotective, antibacterial and immune modulatory activities<sup>8</sup>. *Twak* has the volatile oil E-Cinnamyl acetate, E-Caryophyllene, which has good antioxidant properties<sup>9</sup>. While according to the Ayurvedic concept, all drugs have *Vata-Kapha Hara* properties which are useful in alleviating vitiated *Vata* and *Kapha Dosha* in the oral cavity. Even though the causes of developing halitosis in all five patients were different, one had halitosis due to gastritis or oral ulcer, fasting and pharyngitis, but all the patients got significant results and symptoms decreased remarkably. Antimicrobial action of the drug eliminated the foul odour and inhibited the growth of microbes in the oral cavity and to some extent, treated the cause.

### Patient Perspective

Patients were satisfied with the treatment. On 1<sup>st</sup> follow-up, they expressed that they felt very pleased after two days of treatment. After the gargle, there was a strong, pungent taste in the oral cavity and it also had a cooling and refreshing effect for a comparatively longer time. It even cures loss of appetite in one patient. White coating over the tongue was reduced after the treatment and along with halitosis, underlining causes were also reduced.

### CONCLUSION

The condition of *Mukhadourgandhya* can be co-related with halitosis. In modern science, treatment or management of halitosis is oral hygiene, tongue cleaning and mouth rinsing with menthol, methyl salicylate, chlorohexidine, etc., which shows some side effects like mouth irritation, tongue tip irritation, increased tartar on teeth, staining of teeth, etc. thus to avoid above complication *Trisugandha Arka* can be used for an extended period of time, as it has a greater shelf life as compared to other

formulation and adding to this no side effect noted till far.

There are many causes of halitosis, and *Trisugandha Arka* has proven effective in treating halitosis due to various conditions. Thus, *Trisugandha Arka Kavala* can be used in this *Mukhadourgandhya* (halitosis) along with the underlining treatment for the causes.

### REFERENCES

1. Ayur Terminology, Mukha Durgandhihara, Ayursoft, 2021. <https://ayush.digitalindiacorporation.in/mukha-durgandhihara/>
2. Aylıkçı BU, Colak H. Halitosis: From diagnosis to management. J Nat Sci Biol Med. 2013 Jan;4(1):14-23. DOI: 10.4103/0976-9668.107255. PMID: 23633830; PMCID: PMC3633265.
3. Christine Frank, DDS. Bad breath (halitosis): Causes, diagnosis, and treatment, Medical News Today. MediLexicon International; [Available from: <https://www.medicalnews-today.com/articles/166636>
4. Indradeva Tripathi, *Arkaprakasa* of Lankapati Ravana (Hindi Tikka), 4<sup>th</sup> *Adhayaya*, Shlok no. 5, Chaukhamba krishnadas academy, Varanasi (2011), P 57.
5. Indradeva Tripathi, *Arkaprakasa* of Lankapati Ravana (Hindi Tikka), 2<sup>nd</sup> *Adhayaya*, Shlok no. 10-12, Chaukhamba krishnadas academy, Varanasi; 2011: P 2.
6. Santosh Patil MDS. Halitosis: Practice essentials, epidemiology, etiology Halitosis: Practice Essentials, Epidemiology, Etiology. Medscape; 2021 Available from: [https://emedicine.medscape.com/article/867570-overview#:~:text=The%20intensity%20of%20halitosis%20\(bad,the%20threshold%20of%20malodor%20recognition](https://emedicine.medscape.com/article/867570-overview#:~:text=The%20intensity%20of%20halitosis%20(bad,the%20threshold%20of%20malodor%20recognition)
7. Ashokkumar Kaliyaperumal, Vellaikumar Sampathrajan, Murugan Muthusamy, Dhanya M. K., Ariharasutharsan Gunasekaran, Aiswarya Shaji, Akilan Manoharan, Warkentin Thomas D., Karthikeyan Adhimoolam. Essential oil profile diversity in Cardamom accessions from southern India. Frontiers in Sustainable Food Systems. 2021;5. Available from: <https://www.frontiersin.org/articles/10.3389/fsufs.2021.639619/full>
8. Cinnamomum Tamala Wikipedia. Wikimedia Foundation; 2022. Available from: [https://en.wikipedia.org/wiki/Cinnamomum\\_tamala](https://en.wikipedia.org/wiki/Cinnamomum_tamala)
9. Alizadeh Behbahani B, Falah F, Lavi Arab F, Vasiee M, Tabatabaee Yazdi F. Chemical composition and antioxidant, antimicrobial, and antiproliferative activities of Cinnamomum zeylanicum bark essential oil. Evidence-Based Complementary and Alternative Medicine. Hindawi; 2020. Available from: <https://www.hindawi.com/journals/ecam/2020/5190603/> DOI: <https://doi.org/10.1155/2020/5190603>

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