

Review Article

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“KARNANADA (TINNITUS): AYURVEDIC APPROACHES AND THE EVIDENCE”**Dr. Abhay Gandhi¹****AFFILIATIONS:**

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ABSTRACT

Background: Tinnitus, the perception of sound without an external source, is common and can be highly distressing, affecting sleep, concentration and mood. There is no cure, and evidence-based management focuses on assessment, hearing care, education, sound therapy and cognitive behavioural therapy. Ayurveda describes Karnanada (ringing in the ears) and Karnakshveda (whistling sounds) as Vata-dominant ear diseases and treats them with Karnapurana (oil instillation in the ear), Nasya, Snehapana and Rasayana. **Objective:** To review the classical description of Karnanada, its correlation with tinnitus, current evidence-based management, and the evidence for Ayurvedic interventions. **Methods:** Narrative review of classical texts, clinical guidelines, systematic reviews and Ayurvedic clinical reports. **Results:** Clinical guidelines recommend audiological assessment, education, hearing aids for associated hearing loss and cognitive behavioural therapy, which has the strongest evidence for reducing tinnitus distress. Ginkgo biloba is not effective. Ayurvedic evidence consists of case reports and a small case series reporting improvement with Nasya and Karnapurana; no controlled trials of Ayurvedic treatment for tinnitus have been published. A randomised trial of Kshirabala Taila Karnapurana and Ashwagandha in presbycusis, with tinnitus as a secondary outcome, is in progress. **Conclusion:** Karnanada closely resembles tinnitus, and Ayurvedic treatments are plausible for distress and associated symptoms. Evidence is very limited. Ayurvedic care should include proper assessment and referral and be tested in controlled trials using validated tinnitus questionnaires.

KEYWORDS: Karnanada; Karnakshveda; tinnitus; Karnapurana; Nasya; Shalakya Tantra; Kshirabala Taila; cognitive behavioural therapy

INTRODUCTION

Tinnitus is the conscious perception of sound, such as ringing, buzzing or hissing, in the absence of an external source^[1,2]. A systematic review estimated that about 14% of adults worldwide experience tinnitus, with severe tinnitus affecting about 2%^[3]. It is often associated with hearing loss, noise exposure, ageing, ear disease and stress, and can cause sleep disturbance, anxiety, depression and poor concentration^[1,2].

Tinnitus has no cure. Management aims to reduce its impact through assessment, education, hearing care and psychological approaches^[4,5]. Many patients seek complementary and alternative treatments, including Ayurveda.

Ayurveda describes Karnanada, in which the patient hears various sounds such as drums, conch shells or

bells, and Karnakshveda, with whistling sounds, as diseases caused mainly by aggravated Vata^[6,7]. This review examines the classical understanding of Karnanada and the evidence for Ayurvedic management.

METHODS

Classical sources included Sushruta Samhita Uttara Tantra 20 and 21 and Ashtanga Hridaya Uttara Sthana 17 and 18^[6,7]. Modern literature included clinical practice guidelines, Cochrane reviews and Ayurvedic clinical studies identified through PubMed, Cochrane Library, Google Scholar and Ayurveda journals using the terms Karnanada, Karnakshveda, tinnitus, Karnapurana and Nasya. This is a narrative review.

CLASSICAL DESCRIPTION

Karnanada and Karnakshveda

Sushruta lists 28 ear diseases^[6]. Among them:

Table 1: Karnanada and Karnakshveda in classical texts

Disease	Description	Dosha
Karnanada	Hearing various sounds such as drums, conch, flute or bees, due to Vata moving abnormally in the sound channels	Vata
Karnakshveda	Whistling or hissing sounds, especially after fasting, exertion, or intake of dry or astringent foods	Vata with Pitta and Kapha
Badhirya	Deafness when Vata is accompanied by Kapha obstructing the sound channels	Vata, Kapha
Karnashula	Ear pain	Vata

Causes

Causes include exposure to loud sounds, cold wind, swimming, head injury, excessive fasting and exertion, excessive talking, suppression of urges, and ageing^[6,7]. Loud sound exposure and ageing are well-established modern causes of tinnitus, through noise-induced and age-related hearing loss.

Pathogenesis

Aggravated Vata is said to move abnormally in the Shabdavaha Srotas (channels carrying sound), producing abnormal sounds. Progression to Badhirya (deafness) is described when Kapha obstructs the channels. This parallels the frequent association of tinnitus with hearing loss.

Classical treatment

Classical management of Karnanada and Karnakshveda follows Vata-pacifying principles^[6,7]:

1. **Snehapana:** oral medicated ghee.
2. **Karnapurana:** filling the ear with lukewarm medicated oil.

3. **Nasya:** nasal oils such as Anu Taila or Kshirabala Taila.

4. **Swedana:** fomentation of the head and ears.

5. **Shirobasti and Shirodhara:** oil applications to the head.

6. **Rasayana:** rejuvenative treatment, especially in older patients.

7. **Avoidance of causes:** loud noise, cold, fasting and excessive exertion.

MODERN UNDERSTANDING AND MANAGEMENT

Causes and mechanisms

Tinnitus most often follows damage to the cochlea from noise, ageing or ototoxic drugs, which reduces auditory input and leads to changes in the central auditory system, such as increased spontaneous activity and altered networks involving attention and emotion^[1,2]. Other causes include ear wax, middle ear disease, Ménière's disease, vestibular schwannoma, temporomandibular joint disorders, and pulsatile

tinnitus due to vascular causes.

Assessment

Guidelines recommend^[4,5]:

- **History and examination**, including ear examination.
- **Audiological assessment**, particularly for persistent, unilateral or hearing loss-associated tinnitus.
- **Imaging** for unilateral tinnitus, pulsatile tinnitus, asymmetric hearing loss or focal neurological signs.
- **Measurement of distress** using validated questionnaires such as the Tinnitus Handicap Inventory^[8] or the Tinnitus Functional Index.
- **Screening for anxiety, depression and suicidal thoughts** in patients with severe distress.

Table 2: Evidence-based management of tinnitus

Intervention	Recommendation
Education and counselling	Recommended for all patients
Hearing aids	Recommended for tinnitus with hearing loss
Cognitive behavioural therapy	Recommended; reduces tinnitus distress and improves quality of life ^[9]
Sound therapy	Option; may help some patients
Medications (antidepressants, anticonvulsants, anxiolytics)	Not recommended for tinnitus itself
Ginkgo biloba, melatonin, zinc and other supplements	Not recommended; Ginkgo not effective ^[10]
Repetitive transcranial magnetic stimulation	Not routinely recommended

Evidence-based management

AYURVEDIC CLINICAL EVIDENCE

Case reports

A case report described a 19-year-old woman with tinnitus treated with Nirgundi Taila Karnapurana, Kshirabala Taila Nasya and oral Sarivadi Vati for one week, with marked symptom relief and no recurrence at four weeks^[11]. Another case report described a 52-year-old with bilateral tinnitus treated with Kshirabala Taila Nasya, Maha Masha Taila Karnapurana and oral medicines^[12].

Case series

A case series of five patients treated with Nirgundyadi Taila Nasya, Anu Taila Nasya and

Summary of evidence

Bilva Taila Karnapurana over two months reported apparent benefit, but differences were not statistically significant^[13].

Ongoing randomised trial

An exploratory randomised trial is evaluating Kshirabala Taila Karnapurana and oral Ashwagandha with ghee, added to basic treatment and health education, in older adults with presbycusis^[14]. The primary outcome is pure tone hearing threshold, and the Tinnitus Functional Index is a secondary outcome, with a masked audiometric evaluator. This will provide some of the first controlled data relevant to Ayurvedic treatment of tinnitus associated with age-related hearing loss.

Table 3: Summary of evidence for Ayurvedic interventions in tinnitus

Study	Design	Intervention	Finding
Kabade et al. ^[11]	Case report	Karnapurana, Nasya, Sarivadi Vati	Marked relief
Bhat and Rathi ^[12]	Case report	Nasya, Karnapurana, oral medicines	Improvement reported
Hansitha et al. ^[13]	Case series, n = 5	Nasya and Bilva Taila Karnapurana	Apparent benefit, not significant
TOPMAC protocol ^[14]	RCT (ongoing)	Karnapurana and Ashwagandha in presbycusis	Not yet reported

TINNITUS, VATA AND THE MIND

Modern models of tinnitus emphasise that distress depends less on the loudness of the sound than on how it is perceived and attended to. Anxiety, poor sleep and negative thoughts about tinnitus increase attention to it and make it more intrusive, while relaxation, reassurance and redirected attention reduce its impact^[1,2]. This is the basis of cognitive behavioural therapy, which has the best evidence for reducing tinnitus distress^[9].

Ayurveda similarly links Vata aggravation with

anxiety, insomnia and sensitivity of the senses. Classical Vata-pacifying treatments, such as Shirodhara, Abhyanga, Shiobasti and a regular daily routine, aim to calm both body and mind. These measures could plausibly reduce tinnitus distress through relaxation and better sleep, and they can be combined with psychological approaches. Trials should therefore measure distress, sleep and anxiety as well as tinnitus loudness, and consider comparing Ayurvedic relaxation therapies with established relaxation or counselling programmes.

Table 4: Factors that worsen tinnitus distress: Ayurvedic view and combined approach

Factor that worsens tinnitus distress	Ayurvedic view	Possible combined approach
Anxiety and stress	Vata and Rajas aggravation	Counselling or CBT with Shirodhara and Pranayama
Poor sleep	Vata aggravation, Ratri Jagarana	Sleep hygiene with Padabhyanga and evening routine
Silence	Increased awareness of internal sounds	Sound enrichment; calm music or chanting
Noise exposure	A classical cause of Karnanada	Hearing protection
Fasting and exhaustion	Classical aggravating factors of Karnakshveda	Regular meals and rest

INTERPRETING THE EVIDENCE

Tinnitus distress fluctuates, and many patients improve over time as they habituate, especially when reassured. Placebo responses in tinnitus trials are substantial. Case reports and uncontrolled series therefore cannot show that Ayurvedic treatment works. Ayurvedic procedures, which involve time, touch, attention and relaxation, may reduce distress through non-specific effects similar to counselling and relaxation, which is valuable but different from a specific effect on tinnitus.

SAFETY

Karnapurana procedure

Classically, Karnapurana is performed after gentle massage and fomentation around the ear^[6,7]. The patient lies on the side, lukewarm medicated oil is poured into the external ear canal until it is full, and it is retained for a defined period, traditionally measured in Matra and often taken as a few minutes in modern practice, while the area around the ear is gently massaged. The patient then turns to drain the oil, and the canal is cleaned with cotton. Commonly used oils include Kshirabala Taila, Bilva Taila,

Nirgundi Taila, Maha Masha Taila and Sarshapa (mustard) Taila.

Practical points include:

- warming the oil in a water bath and checking its temperature before use;
- using a fresh, clean dropper and a single-patient portion of oil;
- avoiding cotton buds or instruments deep in the canal;
- cleaning residual oil to prevent maceration and otitis externa;
- recording the oil, volume, duration and any discomfort or vertigo;
- stopping the procedure if the patient experiences pain, dizziness or reduced hearing.

Cold oil or rapid instillation can cause caloric stimulation and transient vertigo, so the oil should be at body temperature.

Karnapurana safety

Karnapurana involves instilling oil into the external ear canal. It must not be performed when:

- the tympanic membrane is perforated or its status is unknown;

- there is ear discharge, active otitis externa or otitis media;
- grommets are present or the patient has had ear surgery;
- the oil is too hot, which can burn the canal or tympanic membrane.

Otoscopic examination of the ear before Karnapurana is essential. Oil in the middle ear through a perforation could cause inflammation and infection, and some herbal ingredients may be ototoxic.

Missed diagnoses

Ayurvedic practitioners must recognise features needing referral:

- unilateral tinnitus or asymmetric hearing loss, which may indicate vestibular schwannoma;
- pulsatile tinnitus, which may have a vascular cause;
- sudden hearing loss, which is an emergency;
- vertigo, ear discharge, pain or neurological symptoms;
- severe distress, depression or suicidal thoughts.

Ototoxicity

Patients should be asked about ototoxic medications, and herbal products should be from quality-assured sources, as heavy metals such as mercury and lead can damage hearing^[15].

AN INTEGRATED APPROACH

1. **Assessment:** ear examination, audiometry and, where indicated, imaging and referral.
2. **Education:** explaining tinnitus, reassuring about its benign nature in most cases, and encouraging habituation.
3. **Hearing care:** hearing aids for associated hearing loss.
4. **Psychological support:** cognitive behavioural therapy or counselling for distressing tinnitus.
5. **Ayurvedic care:** Vata-pacifying measures, including Nasya, Shirodhara, Abhyanga and, if the tympanic membrane is intact and the ear healthy, Karnapurana; sleep and stress management; avoidance of loud noise.
6. **Outcome measurement:** Tinnitus Handicap Inventory or Tinnitus Functional Index at baseline and follow-up.

RESEARCH PRIORITIES

- Randomised trials comparing Ayurvedic treatment plus education with education alone

or with sham procedures.

- Validated outcomes, including the Tinnitus Handicap Inventory, Tinnitus Functional Index, sleep and anxiety measures, and audiometry.
- Subgroup analysis by cause, such as presbycusis, noise exposure and stress-related tinnitus.
- Follow-up of at least three months to assess durability beyond natural habituation.
- Safety reporting, particularly for Karnapurana.

DISCUSSION

Karnanada and Karnakshveda describe tinnitus vividly, and their classical causes, including loud sound and ageing, are consistent with modern knowledge. The Ayurvedic emphasis on Vata pacification, rest, sleep and avoidance of noise aligns with general tinnitus advice and with the role of stress and attention in tinnitus distress.

Evidence for Ayurvedic treatment of tinnitus is, however, very limited, consisting of case reports and a small case series. Because tinnitus distress often improves with time and reassurance, controlled trials are essential. Ayurvedic practitioners have an important role in ensuring that patients with tinnitus are properly assessed and referred when red flags are present.

CONCLUSION

Karnanada closely corresponds to tinnitus, and Ayurvedic treatments, particularly Nasya, Karnapurana and Vata-pacifying therapies, are widely used. Current evidence is limited to case reports and small series, so no conclusions can be drawn about efficacy. Ayurvedic management should be offered alongside proper assessment, hearing care and psychological support, and tested in controlled trials with validated tinnitus outcomes.

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