An Introduction to *Keraliya Panchakarma* – A Systematic Review

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Abstract

Background: Panchakarma is an ancient Ayurvedic healing system that has been practiced in India for thousands of years. It is a holistic approach to wellness that focuses on balancing the body, mind, and spirit through a combination of procedures. In Keraliya Panchakarma, the Ayurvedic scholars in Kerala have adjusted some approaches and found them to be highly efficient based on Ayurvedic principles. While the treatment principles remain rooted in the ancient textual tradition of Ayurveda, their distinctive treatment techniques have been enhanced over centuries through an intimate interaction with Keralan folk medicine. The traditional Panchakarma procedures are Vamana (therapeutic emesis), Virechana (therapeutic purgation), Basti (medicated enema), Nasya (errhine therapy), and Raktamokshana (bloodletting). Keraliya Panchakarma is a more simplified process that includes Navarakizhi, Annalepana, Pizhichil, Dhara, and Thalapotichil. Objectives: This article lists the different types of Keraliya Panchakarma in detail and further goes on to describe how and when to perform each procedure, the materials required, the benefits, the indications, and contraindications. Materials and Methods: Inclusion criteria include books that focus on Keraliya Panchakarma and its various aspects. Exclusion criteria are those studies not written in the English language, studies with inadequate methodological quality, and those that do not meet the defined objectives of the review. Discussion: A detailed description of the following five Keraliya Panchakarma procedures was collected and presented. These are Navarakizhi, Annalepana, Pizhichil, Dhara, and Thalapotichil. The conciseness and simplicity of the procedures mentioned here can be reproduced and performed by any Ayurveda practitioner with a desire to do so. Some limitations of the study may be the limited availability of high-quality studies on the topic, language differences, and differences in the interpretation of cultural practices. Conclusion: Keraliya Panchakarma is recognized to be a highly efficient treatment modality based on Ayurveda principles of Panchakarma procedures developed and perfected by the Vaidyas of Kerala and it can be adopted by Ayurveda practitioners everywhere.

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INTRODUCTION

In India, Panchakarma is used both as a treatment and a preventative measure to treat illness. The state of Kerala, which is in South India, is also a prime area of Panchakarma practice. The region's Ayurvedic practitioners created this form of healing with considerable originality; it's what is now commonly referred to as Keraliya Panchakarma, this exclusive method of Panchakarma practice has gained popularity all over India. Even though it differs from customs in other regions of India, Keraliya Panchakarma is entirely founded on Ayurvedic principles. The treatment has been used for centuries to prevent and cure various ailments and illnesses. The approach involves using natural oils and herbs to stimulate the body's internal organs and eliminate toxins, which are the root cause of many health problems. Keraliya Panchakarma is a gentle and non-invasive treatment that promotes natural healing and enhances the body's ability to heal itself. There is no specific order for performing these therapies. Usually, one or more of the procedures is advised by the practitioner, based on the disease condition or the specific requirements of the patient.

Due to their exceptional therapeutic efficacy in both healthy and diseased bodies, these therapies have gained recognition on a global scale. Treatments that are administered externally receive more attention than those that are administered internally, such as *Keraliya Panchakarma's* unique therapeutic techniques known as *Navarakizhi, Annalepana, Pizhichil, Dhara,* and *Thalapotichil.* This article will explore the principles and benefits of *Keraliya Panchakarma*, as well as the different treatments involved. It will also look at the history and philosophy behind this ancient ¹Department of Panchakarma, National Institute of Ayurveda (Deemed University), Jaipur, Rajasthan, India, ²Department of Maulik Siddhanta, National Institute of Ayurveda

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healing practice and how it can be incorporated into modern-day lifestyles. It will also explore how to prepare for the therapy and what to expect during the treatment.

MATERIALS AND METHODS

A brief review of the literature was conducted to identify studies that mentioned *Keraliya Panchakarma*. The Inclusion criteria include books that focus on *Keraliya Panchakarma* and its various aspects. Exclusion criteria are those studies not written in the English language, studies with inadequate methodological quality, and those that do not meet the defined objectives of the review.

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Navarakizhi^[1] (Sudation with the Application of A Bolus Prepared with Medicated Substances)

Navarakizhi, often referred to as Shashtika Shali Pinda Swedana, is unique to Kerala. It provides pressure, heat, and massage, which nourishes muscles and stimulates nerve endings. Using hot Shashtika Shali (a type of rice, that yields after 60 days) in the form of Potali (boluses are filled with the prepared Shashtika Shali into a cotton cloth and tied tightly with a thread), a specific portion of the body or the entire body is made to sweat in this common Swedana (therapeutic fomentation) technique for patients.

Materials and equipment

One Droni (Dhara table), one gas stove, and two or three vessels. Four cotton pieces, 2 m of cotton thread, eight to ten coconut leaves, a towel, and hot water. The Shashtika Shali is a type of rice, it is prepared by first boiling 12 Pala of Balamoola in 12 Prastha of water and reducing it to four Prastha. Then the remaining Kwath is filtered and divided into two equal parts of 1.5 Prastha each. An equal amount of milk is added to the Kwath and then 32 Tola of Shastika Shali is added and cooked thoroughly until it reaches the right consistency. Once this is done, the prepared Shastika Shali is divided into four equal parts to be made into the Kizhi (Potali). An equal quantity of milk is added to the Kwath that had been divided before. This is kept warm on a mild flame and the Kizhi (Potali) is dipped into it for performing the procedure.

Procedure:[2]

On a prescribed day and time, the patient is requested to enter the procedure room, light the lamp, and offer prayers. After the prayer, the patient is requested to sit on the *Droni* with their legs extended, keeping their face toward the east. Two masseurs should gently apply the warm *Kizhi* (*Potali*) on both sides in a synchronized fashion. By stroking them over the dorsum of their hand, they should make sure the patient can tolerate the boluses' heat. By continuously using four boluses, the temperature of the boluses should remain consistent throughout the procedure Figure 1. Until the patient receives *Samyak Swinna Lakshana*, the operation must continue non-stop.^[3] This procedure is also carried out in seven positions, just like in *Kayaseka*, or as necessary.

Time and duration

The total duration of the procedure may be half *Yama* (one and a half hours). The procedure is usually performed for 7, 14, or 21 days, according to the requirement.

Indications

Rejuvenation therapy, paralysis, osteoarthritis, and other degenerative diseases.

Contraindications

Infections, acute fever, diarrhea, upset stomach, cough, respiratory issues, inflammatory and painful diseases, myalgia, etc.

Other types of Kizhi

Kizhi or *Potli* is an *Ayurvedic* treatment in which a warm pouch is packed with herbal powder, leaves, rice, sand, or lime; and is applied

rhythmically and with pressure all over the body. This therapy causes the body to sweat out toxins and *Vata Dosha* is lessened as a result. These specific types of *Kizhi* or *Potli* are advised by the practitioner based on the disease or requirements of the patient.

- 1. *Podikizhi or Churna Kizhi*: Various herbal powders, such as *Kolakulathaadi Churna* and *Kottamchukkaadi Churna*, are fried and then tied within the *Potli*
- 2. *Vaaluka Kizhi*: The *Potli* is created with purified sand. The dry *Potli* is gently heated and used to relieve swelling, particularly in cases of *Amavata* (rheumatoid arthritis)
- 3. *Ela Kizhi*: Also called *Patra Potli* or *Patra Pinda Sweda*. Along with garlic and coconut, several medicinal leaves, such as *Shigru* and *Eranda*, are used. The ingredients are fried before being tied in a *Potli*. The hot oils *Dhanwantharam*, *Prasaranyadi*, and *Kottamchukkaadi* will be used to dip this *Potli*, after which it will be applied to the patient
- 4. *Narangakizhi*: This is a type of *Swedana* where the *Jambeera* (a type of lime) is used; it is commonly known as *Jambeera Pinda Swedana* but in *Kerala*, it is known as *Narangakizhi*.

Annalepana or Navara Tepu^[1] (Therapeutic Paste Application Over the Body)

Annalepana means the application of rice paste all over the body. Annalepana can also be considered a type of Upanaha Swedana in a different aspect. Acharya Charaka has also described the application of the paste of certain medicines in various disorders. It is with the same underlying fundamental principles that the Keraliya Vaidyas have developed the Annalepana therapy.

Method of preparation

Three *Pala* of *Balamoola* is crushed and added to three *Prastha* of water and reduced to one-fourth. This decoction is filtered, and an equal quantity of milk is added to it. In this mixture, one *Kudava* of powdered *Sashtika* rice is cooked. This mixture is boiled until it attains a semisolid consistency.

Materials and equipment

(i) *Panchakarma Droni*: 1, (ii) gas stove: 1, (iii) vessels: 2 or 3, (iv) attenders: 4, (v) coconut leaves/palm leaves 8–10 in number, (vi) towels, (vii) hot water for bath, (viii) *Gandharvahasthadi Kwath*.

Procedure:^[2]

On a prescribed day and time, the patient is requested to enter the procedure room, light the lamp, and offer prayers. After the prayer, the patient is requested to sit on the Droni with legs extended keeping their face toward the east. The patient should then be properly massaged with warm oil all over the body and head. The guarter part of the prepared pudding is taken and applied all over the body except the head, it should be in lukewarm form. The rice is applied in multiple episodes Figure 2. The paste should be warm throughout the procedure. The Annalepana therapy is also performed in the seven postures advised as before. When the procedure is completed, the paste of medicine that was applied to the body should be scraped off with either palm leaves or coconut leaves using the edges of the leaves to scrape the medicine. Similarly, after removing the Annalepana, the body should be wiped off with dry soft towels. Medicated oil should be applied to the body and Gandharvahasthadi Kwath should be given orally. Then a warm water bath is advised.

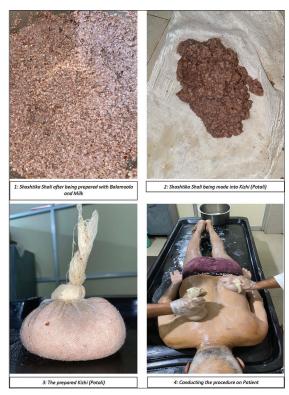


Figure 1: Navarakizhi procedure



Figure 2: Annalepa or Navara Tepu procedure

Time and duration

The total duration of the procedure may be half *Yama* (one and a half hours). The procedure is usually performed for 7, 14, or 21 days according to the requirement.

Indications

Persons affected by pre-mature senility, in states of weakened tissue, whose senses and *Ojas* are deteriorated, and who need nurturing. It can be performed on those patients that have become emaciated due to affliction of disease. *Sandhigata Vata, Vata Rakta, Pakshagata, Shosha.* Hemiplegia, paraplegia, rheumatoid arthritis, gout, osteoarthritis, muscular and ligamentous injuries, and other degenerative joint disorders.



Figure 3: Dhara procedure being conducted on the patient



Figure 4: Thalapotichil or Sirolepa procedure

Contraindications

Diarrhea, digestive disorders, cough, breathing difficulty, infections, acute fever, inflammatory and painful conditions, myalgia, etc.

Pizhichil^[1] (Therapeutic Stream Over the Body)

This is one of the famous *Keraliya Panchakarma* procedures that was usually given to members of the royal family under the supervision of the *Vaidyas*. It is an improved variation of *Parisheka Sweda* that involves pouring lukewarm medicinal oil in a certain pattern to induce sweating in the body. Other names for *Pizhichil* include *Kayaseka*, *Tailaseka*, and *Sarvang Sneha Dhara*. It is a

medical practice in which the patient's body is massaged for a predetermined amount of time while receiving herbal oils or ghee in a controlled stream. It is a form of *Parishek Sweda* (steam). Stream pouring, sprinkling, or showering with warm herbal decoctions to balance the *Doshas* is known as *Parishek Sweda*. It is a *Panchakarma* preparatory process that has the benefit of simultaneously producing the *Snehana* and *Swedana* effects.

Materials and equipment

The equipment includes a *Panchakarma Droni* (*Dhara* table), four pieces of cotton cloth, one pillow, four vessels with a capacity of 5 L, a towel to wipe the oil off, heating devices (such as a stove), 5–6 L of medicated oil, 10 mL of medicated oil for the head, 5 g of *Rasnadi Churna*, and 60 mL of *Gandharvahasthadi Kashaya* are the medicines utilized for this process.

Procedure:[2]

On a prescribed day and time, the patient is requested to enter into the procedure room, light the lamp, and offer prayers. After the prayer, the patient is requested to sit on the *Droni* with legs extended keeping their face toward the east. The patient should sit on the *Droni* (*Dhara* table) with their legs extended in the *Pizhichil* procedure. After soaking in the proper oil, a cotton swab (*Taila Pichu*) is used to apply oil to the ears and the scalp (*Karnapurana*). Tie the cotton cloth around the head at the level of the forehead above the ears. Apply the oil to the entire body after plugging the ears with cotton. Two masseurs will softly massage the patient on either side. The *Pizhichil* oil needs to be appropriately heated, and the patient must feel comfortable with the oil's temperature. The body should then be covered with a piece of cloth that has been dipped in the heating oil. A mild massage is performed concurrently.

Following *Pizhichil*, the patient's body is to be gently massaged, and oil is to be removed from the body and scalp using a clean towel. After a little period of rest, the patient should take a warm water bath. *Gandharvahasthadi Kwatha* (60 mL) should be administered orally after *Rasnadi Churna* has been applied to the scalp.

Time and duration

The operation can take anywhere between 45 and 60 min to complete, and depending on the patient's or disease's status, it may last 7, 14, or 21 days.

Indications

Pizhichil therapy is indicated for those who have joint dislocations, rheumatoid arthritis, osteoarthritis, injuries to the ligaments and muscles, other degenerative joint disorders, post-fracture stiffness of joints, paraplegia, contusion injuries, peripheral neuropathy, and other degenerative conditions.

Contraindications

Diarrhea, digestive issues, coughing, breathing problems, infections, painful inflammatory illnesses, acute fever stages, etc. are all contraindicated for *Pizhichil*.

Dhara or Siraseka^[1] (therapeutic stream over the head)

Dhara Kalpa provides knowledge regarding Takradhara, Kayaseka, Ekanga Sweda, and Murdhataila. It is a type of Shirodhara or Murdhataila (oil application to the head and scalp), often called Siraseka, in which a prescribed amount of medicinal oil or liquid is continuously poured over the forehead before being let to flow for a pre-determined amount of time from a specific height over the scalp.

Materials and equipment

(i) Droni (Dhara table), (ii) Dhara Patra, (iii) Dhara Dravya.

Droni (Dhara table)

The Droni is made from a single heartwood section of the tree. There are several types of wood utilized, including Plaksha, Udumbara, Gandhasara, Varana, Nyagrodha, Devadruma, Punnaga, Kapitha, and Bakula. The Dhara Droni's surface should ideally be level, flat, and smooth. The Droni has two compartments: A raised head end and a lower end. The head end should have a hollow chamber with the ability to hold Ardha Adhaka (1.5 kg) of liquid in it. The Droni should be four Hasta long, a quarter of a Hasta tall, and one Hasta wide. An opening to drain the liquid from the Droni should be located at the foot end.

Dhara patra

Here, *Dhara Patra* refers to the specific vessel used for the *Dhara* procedure. The ideal *Dhara Patra* can be made of clay, wood, glass, copper, gold, or silver. The *Dhara Patra* should have a holding capacity of three *Prastha*. The *Dhara Patra* has a circular bottom and a large mouth. It should be hung roughly over the patient's head and secured with a strong rope knotted along its rim. The *Dhara Patra* bottom should have a hole, having the size of a little finger. The wick, which is neither too loosely nor securely wrapped, is hung through this opening. The wick should be placed two *Angula* above the patient's forehead and six *Angula* from the vessel's edge. In the traditional method used in *Kerala*, a semi-coconut shell with saw-toothed edges is placed over the hole in the *Dhara Patra*, and the wick is knotted through the vent on the *Dhara Patra's* bottom, and hang down to a length of six *Angula*.

Dhara dravya

The *Dravya* should be chosen after careful consideration of the *Dosha* and *Dushya* components, according to *Dhara Dravya*. For the purpose of *Dhara*, substances such as tender coconut water, cold water, milk, *Kwatha*, etc. can be used. Every day, fresh liquids such as milk, buttermilk, and oil can be utilized. The four *Sneha Dravya*, namely *Ghrita*, *Taila*, *Vasa*, and *Majja*, should be utilized in those only *Vataja* conditions. *Dhara* with coconut water or fresh water might be helpful in conditions where *Pitta* predominates, such as scalp burning, *Unmada*, or sensory organ weakening. In these circumstances, milk is more acceptable. Cow's ghee and *Tila Taila* can be utilized in an equal ratio for *Vata Roga* or *Kapha Roga* in *Pittaja* or *Rakta* prevalent conditions as well as *Raktapitta*-associated conditions. The unctuous matter made from a combination of two parts *Tila Taila* and one-part cow's ghee can be employed in *Kaphaja* associated *Vata Roga*.

Dhara procedure:^[2]

On a prescribed day, at a suitable hour, the patient is made to enter the room, light the lamp, and offer prayers before the Dhara is started, using the proper Dravya. Make the patient sit on the Droni with their backs to the east after the prayer is offered. The patient's head should be massaged with the appropriate oil or liquid. Before some procedures, a full-body massage is also performed. The neck, shoulders, back, and other areas should all receive gentle massages. To keep the Dhara Dravya from getting in the eyes, a thick strap of fabric is then stretched across the forehead and over the brows. The patient's head should be supported by a small, soft pillow. The Dharakalpa device is placed over the patient's head while they are advised to lie supine on the Droni. One attendant should hold the Dhara Patra, while the Vaidya is blocking the hole with his thumb to prevent the Dravya from flowing out. After putting the Dhara Patra and pouring the prepared Dhara Dravya into it, the block is gradually removed. From a height of four Angula, the Dhara Dravya is made to flow continuously over the forehead [Figure 3].^[3] The Dhara Patra oscillates in a horizontal fashion between the two temples, across the forehead. Throughout the procedure, the Dhara Dravya should be periodically collected by another attendee and should be replaced in the Dhara Patra after making it lukewarm if necessary.

Time and duration

The ideal time for this procedure is in the morning between 7 and 10 a.m. for a duration of half *Yama*^[3] (one and a half hours). This procedure can be performed for a period of 7, 14, or 21 days.

Follow-up procedure

The head must be wiped off when this treatment is finished, and the patient is instructed to take a bath in lukewarm water after 30 min. The patient should be told to get enough rest and not push themselves too hard emotionally or physically.

Indications

Cerebrovascular illnesses, including cerebral palsy, hemiplegia, facial palsy, headache, anxiety, and insomnia, as well as eye diseases with neurological causes, are indications.

Contraindications

Glaucoma, conjunctivitis, fever, inflammatory disorders of the head, and lesions that take up space in the brain are contraindications.

Benefits of Dhara procedure

Speech and mind are stabilized, fortifies the body, increases awareness of food flavors, memory gets better, speech is gentler, skin is smoother, eye disorders are less common, *Rakta Dhatu* and *Sukra* are nourished, prolongs life and lowers body temperature, induces sound sleep and increases mental congeniality.

Thalapotichil or Sirolepa (Therapeutic Paste Application Over the Head)

Thalapotichil is one of the unique treatments introduced to practice by knowledgeable, seasoned *Vaidyas* from Kerala. *Thalapotichil* or *Sirolepa* is the term for applying a medicinal paste to the scalp. The care of "Urdhava Jatrugata Vihara" is described in the classics of Ayurveda using Thalapotichil or Sirolepa.

Materials required

 (i) Musta (10–20 g; Cyperus rotundus), (ii) 250 g of dried Dhatri Phala (Emblica officinalis), (iii) 500 mL of Takra (buttermilk), (iv) Taila (20 mL of suitable oil), (v) Lotus leaves – QS, (vi) Rasnadi Churna - QS. (QS- Quantity Sufficient)

Method of preparation

There are two techniques to make the medicinal paste.

First method

Two *Kudavas* of buttermilk blended with an equal quantity of water are heated with one *Kudava* of dry, deseeded *Amalaki*. Cooking continues until only a small amount of liquid remains. Then it is ground until a paste is created.

Second method

Half of the buttermilk produced in accordance with the directions in the *Takra Dhara* is taken. A mud pot is used to immerse four *Pala* of dried, deseeded *Amalaki* in *Takra* and kept overnight. The mixture is thoroughly triturated to create a fine, smooth paste that is neither too liquid nor too solid.

Procedure:[2]

On a prescribed day and time, the patient is requested to enter into the procedure room, light the lamp, and offer prayers. After the prayer, the patient is requested to sit on the *Droni* with legs extended keeping their face toward the east. The patient's head should be shaved, and then medicated oil is to be applied to the body and scalp. *Varti* must be fastened around the patient's head when they are sitting comfortably in a chair. After that, the paste should be placed on the head's core, and then spread out one *Angula* thick over the front, sides, and back of the head, as depicted in Figure 4. The paste is to be covered with a lotus or plantain leaf and wrapped around the head. At the Centre, a hole is formed. The leaf should be taken off after an hour and a half, the medicinal paste should be removed, the *Abhyanga* should be repeated, and the patient should be told to take a warm bath.

Time and duration

The ideal time for this procedure is in the morning between 7 and 10 a.m. This procedure can be performed for a period of 7, 14 days. In certain conditions, it may also be applied at night time.

Indications

Twak Roga, Shiroroga, Klama, Apaci, Nidranasa, Shirahshula, and Pitta raktaja are indications.

Contraindications

Colds, fevers, sinusitis, and other inflammatory conditions.

DISCUSSION

The upgraded and advanced external Snehana and Swedana therapies used in Keraliya Panchakarma have great therapeutic efficacy in both healthy and diseased bodies. Navarakizhi, Annalepana, Pizhichil, Dhara and Thalapotichil are among them. The Keraliya Panchakarma's described modes of action are identical to external Snehana and Swedana. When vitiated Doshas in a person reach the intestines after being pushed by oleation and sudation, they can be easily evacuated by evacuative medications, e.g., Gandharvahasthadi Kwatha (it has laxative properties and alleviates rheumatic pains and indigestion). Snehana therapy softens the body, calms agitated Vayu, and dissolves stuck-on morbid stuff. Swedana liquefies Klinna Doshas that are present in Kostha, Dhatu, Srotas, Shakhas, and Asthi and brings them to the surface.^[3] The exterior therapies have been updated and modernized into the aforementioned Keraliya Panchakarma therapies. Therefore, the described mode of action is the same as external Snehana and Swedana. Some limitations of the study are that the article provides a detailed description of Keraliya Panchakarma procedures and their traditional methods but lacks clinical data or scientific studies to support the claimed benefits and efficacy. Furthermore, the article suggests that Keraliya panchakarma can be adopted by Ayurveda practitioners everywhere, but it does not discuss the potential variations in efficacy based on different patients' conditions and health statuses. Here, the focus is solely on Keraliya Panchakarma without comparing its effectiveness to standard Panchakarma procedures or other traditional healing systems. A comparative analysis could provide valuable insights into the uniqueness and advantages of Keraliya Panchakarma. A detailed description of the five specific procedures: Navarakizhi, Annalepana, Pizhichil, Dhara,

and *Thalapotichil* is outlined and these procedures are said to be rooted in Ayurvedic principles and have gained recognition for their therapeutic efficacy. The described procedures involve the use of natural oils, herbal pastes, and medicated liquids applied through massages, oil pouring, and pasting on the body and scalp. The article outlines the materials and equipment required for each procedure, as well as their indications and contraindications.

CONCLUSION

The modified and creative external *Snehana* and *Swedana* therapies are known as *Keraliya Panchakarma* therapies. Due to their exceptional therapeutic success in both healthy and diseased bodies, these therapies have received widespread recognition. *Navarakizhi, Annalepana, Pizhichil, Dhara,* and *Thalapotichil* are a few of the *Keraliya panchakarma* therapies. Each *Keraliya panchakarma* therapies. Each *Keraliya panchakarma* therapies are safer because they do not cause any complications or adverse effects and can be done by any *Ayurvedic vaidya* at their private practice.

References

- Mooss NS. Ayurvedic Treatments of Kerala. Kottayam, South India: Vaidya Sarathy Press; 1946.
- Lavekar GS, Menon TV, Bharti M. A Practical Handbook of Panchakarma Procedures. New Delhi: Central Council for Research in Ayurveda and Siddha; 2009.
- Murthy KR. Ashtanga Hrdayam. 5th ed. Varanasi: Krishna Das Academy; 2000.