

**TRADITIONAL DIET, EXTERNAL THERAPY AND LIFESTYLE
MODIFICATION FOR MANAGEMENT OF SAGANAVATHAM
(CERVICAL SPONDYLOSIS)-A LITERATURE REVIEW**

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1. INTRODUCTION

A literature review is a scholarly paper that, when contextualized, reveals the author's knowledge and appreciation of the academic literature on a specific topic. A literature review differs from a literature report in that it includes a critical evaluation of the material. It serves as both a writing approach and a tool for reviewing literature.

“your task is to build an argument, not a library” says Rudestam (1992). So in this review of literature let us discuss information regarding the management of cervical spondylosis in the aspect of the Siddha system of medicine.

According to Thiagarajan R in the book Siddha MaruthuvamSirrappu, the illness known as "Saganavatham" is related to "Cervical spondylosis" and is covered under the Vatha sickness category in the

Siddha medical system.

A diseased organ is brought back to health by the Siddha system. The Siddha system's therapeutic approaches include Puramarunthugal (external medications), Agamarunthugal (internal medications), and PuraMaruthuvam (external therapies).

Author Mangayarkarasi P et al. (2020) compare the symptoms of cervical spondylosis from Siddha literature to modern science in the following table 1.1.

“Kaelumey kaluthinki larikku mealung
Kediyanakaramirandumekavaenonthu
Vaalumeysareramellangkanaththirukkum
Valiparukkumanangkannumayakkamaakum
Yaelumeyerandukannumerichalunda
Metramaaaisalanthanumirugikkaanunth
Theylumeykotinathuporkadukkum
Saganavathathinidatherkkangthaney.”

Table 1.1: Comparison of symptoms between Siddha and modern aspect.

Siddha Aspect	Modern Aspect
Kaluththinkeelaraikkumael	Pain in the neck
Karamirandumigavaenonthu	Cervical radiculopathy
Sareeramellagkanaththirukkum	Muscle spasm tenderness
Manngkannummayakkamaakum	Giddiness

A scientist Natarajan S states various aetiology, pathology and lines of treatment through the Siddha system of medicine. They are as follows

2. Etiology of Sagana Vatham

1. Overindulgence in foods that are bitter, astringent, or pungent.
2. Consuming contaminated water.
3. Modifying the rhythm of sleep.
4. Starvation to an extreme.
5. Getting up and moving bulky items.
6. Overindulgence of fruits, vegetables, curd, etc.

3. Pathology of Sagana Vatham

The vitiation of vayu, akayam, man, and thee by the etiological agents affect the three uyirtathu. Udaltathu simultaneously became insane.

3.1 Udal Tathu

Vali: When Viyanan is out of balance, the cervical and dorsal spine hurt.

Upper limb pain that feels heavy and like a scorpion bite. Constipation results from Abanan derangement. Mental depression is caused by Tevatattan derangement.

Azhal: Giddiness results from catakam derangement.

Aiyam: Burning feeling in the eyes is caused by tarpakam dysfunction.

3.2 Uyir Tathu

The impacted areas of Udalthathu are Caram, Cenneer, Oon, Kozhuppu, and Enpu. The clinical signs are a result of the entire experience.

3.3 Clinical symptoms of Sagana Vatham

Cervical spondylosis is correlated with the clinical signs of sagana vatham.

1. Stiff neck.
2. Pain radiating down the arm, to the shoulder, and the base of the head.
3. Parasthesia.
4. Weakness in the hands, arms, neck, and shoulders.

3.4 Siddha line of treatment

By the Siddha principles, internal medication can be given when purgation is induced to balance the vitiated vata.

1. First, prescribe the kazhiccal medicines to normalise the vitiated vata.
2. Anti-Vata medications.
3. Adjunctive therapies like massage, fomentation, etc.
4. Do yoga exercises.
5. Dietary limitations.

4. Incidence and Prevalence of Cervical Spondylosis in India

The prevalence of cervical spondylosis varies from 16.7% to 75.1% worldwide, according to Fejer R (2006). Elenberg and Hovet's investigation revealed a global tendency that was on the rise. In India alone, almost 10 million people are impacted annually. Adults experience 25–50% of cases of neck pain annually. According to Dr DH Irvine, the degree of severity of cervical spondylosis is higher in men, but the prevalence is the same in both sexes. According

to scientist Teeraj, spinal dysfunction in the elderly is most common. According to predictions, intervertebral foramina, or narrowing of the spinal canal, affects 75% of people over 50. Of these cases, 50% had symptoms. In the cervical spine, spondylotic changes appear at the single disc space level in 15-40% of patients and the multiple disc space level in 60-85%. C4–C7 are most frequently impacted. 10% of patients have a congenital skeletal abnormality. A growing trend among younger people is the use of laptops, smartphones, sedentary lifestyles, and incorrect body posture—also referred to as text posture.

5. Methodology of review

Classic textbooks and several research publications on cervical spondylosis, yoga and Varmam were examined and used as resources to draw attention to the topic. The subsequent search phrases were employed: Saganavatham, Traditional foods for Saganavatham, Varmam, Yoga, cervical spondylosis.

6. Review on traditional Siddha diet for Saganavatham

6.1 Millets for Cervical spondylosis

A millet protocol is presented by Dr. Khadar, the Millet man of India, based on his studies with millets. He recommends consuming fermented millet daliya including Browntop (Kula samai), Kodo (Varagu), Barnyard (Kuthiraivali), Little (Samai), and Foxtail (Thinai) every two days for a total of nine weeks for managing cervical spondylosis.

6.2 Foxtail Millet for Cervical spondylosis

Foxtail is a nutritional powerhouse. These little seeds, which are high in vitamin B12, can provide you with a daily dosage of healthy fat, carbohydrates, protein, and dietary fibre. It also includes large levels of calcium in addition to lysine, thiamine, iron, and niacin.

Ayurvedic books such as Sushena's 14th-century Mahodadhi describe foxtail millets as sweet and astringent to taste, elevating vatadosha while balancing doshas associated with pitta, kapha, and blood tissues. It supplies phosphorus and calcium, which fortifies bones. To aid in the treatment of brittle bones, inflammation, and other chronic bone-related illnesses such as osteoporosis, spondylitis, arthritis, etc. Additionally, it improves heart health, lowers cholesterol, manages diabetes, enhances the neurological system, and increases immunity.

In the book Plant Ayurveda, an article was published on Feb 6, 2020, by Dr Meenakshi Chauhan about the dietary pattern for cervical spondylosis in which the following foods were

recommended by the author. Cereals like Wheat, Brown rice, Wheat rice, Sorghum, Finger millet, Amaranth, Pearl millet, Buckwheat, and Little millet. Fruits like Apples, Watermelon, bananas, Muskmelon, avocado, Pear, Peaches, pomegranate, Coconut. All types of berries, Mango, Figs, litchi, Custard apple, Sweet lime, Orange, Sapodilla, Grapes, Pineapple. Vegetables like Zucchini, Sweet potato, Pumpkin, Ginger, Celery, Red onion, Coriander, Radish, Broccoli, Cabbage, Cauliflower, Kale, Spinach, Mushrooms, Carrot, Fenugreek leaves, Peas, Okra, Bottle guard, Potato, Yam are good for cervical spondylosis patients.

Yoo K and Origitano TC's (1998) study on the impact of food choices on spine health sheds light on how our modern lifestyle affects the health of our spines. The researchers present solid evidence that our levels of calcium, vitamin D, phosphorus, and a range of other hormonal, dietary, and emotional factors have a major impact on the locomotor system's integrity. Many things can go wrong in this system due to the delicate balance of these elements. A calcium deficiency, for example, can weaken the entire bone matrix, whereas an imbalance in the calcium: Phosphorus ratio can cause demineralization. A well-balanced diet is essential for maintaining healthy bones and joints. Vegetarian and non-vegetarian diets perform distinct roles in maintaining the body's bone mineral metabolism.

According to Basilwellness, meat, fried, spicy, or sour foods include a high sulphur level, which may change blood pH. This increases blood acidity and causes bone demineralization. Studies demonstrate that postmenopausal vegetarian women had higher bone mineral content than non-vegetarians. Furthermore, there is a strong link between the type of food ingested and joint problems including frozen shoulder and cervical spondylosis. Fried meals, spicy, fatty foods, excessive meats, and refined foods, such as bread, confectionery, sweets, and other refined wheat products, are the leading causes of joint disorders. The sort of food causes the blood to become too acidic, which the kidneys cannot handle. Because of this acid, all joints become inflamed, and the intervertebral discs degrade, resulting in disc compression.

Constipation causes the stomach to produce toxins, which enter the bloodstream and raise acidity levels. This, combined with other factors, contributes to the development of bone demineralization and CS.

The preservation of proper body structure and function is also greatly aided by hormones such as growth hormone, adrenocortical hormones, thyroid, and oestrogen. Many studies have demonstrated a strong correlation between our diet and hormone levels.

6.3 Impact of Vegetarian food on Cervical spondylosis

As per reports from the journal Ayurveda Clinics, a vegetarian diet which is high in fibre and contains many vitamins and minerals in its uncooked form, is extremely useful since it reduces constipation, eliminates harmful debris from the gastrointestinal tract, and so prevents increasing blood acidity. Vegetarian diets have more minerals and vitamins, which help to keep bone metabolism running smoothly. A non-vegetarian diet's acidity (sulphur-related) initiates and maintains bone demineralization, as demonstrated by repeated bone mineral density tests with direct photon absorption spectroscopy. This disadvantage does not apply to the vegetarian diet, which consists mostly of raw foods. Fried, spicy, and very sour foods, whether vegetarian or non-vegetarian, are damaging to bone, cartilage, and joint health.

6.4 Lacto vegetarianism

Vegetarians are frequently assumed to be calcium deficient, which results in bone demineralization and osteoporosis. This is not true for lactovegetarians because milk and milk products include a high quantity of calcium, which people can easily absorb. However, there have been reports, and we have personal experience, that milk digestion gets more difficult as we age due to lower gastric acid and enzyme concentration. Milk maldigestion not only causes gastrointestinal discomfort but also raises the body's acid burden, exacerbating joint pain and arthritic symptoms.

As a result, vegetarian diets offer significant protection against bone and joint disease when calcium, protein, and vitamin intake are adequate. According to current studies, vegetarian diets minimize the progression of neck and shoulder pain, as well as bone demineralization, due to their high fibre, vitamin and mineral content, and low acid level. Hence, maintaining a healthy food pattern can help reduce the risk of developing CS.

Vegetarian source of Calcium	Factors affecting Calcium absorption
Milk	Foods rich in oxalic acids. e.g. spinach, horsegram, lotus stem.
Cottage cheese (Paneer)	Vitamin D Deficiency
Almonds	Excessive use of proteins like fish, meat,

	poultry, eggs, etc
Pulses	Excessive use of common salt
Soya beans and TOFU	Excessive intake of fat, coffee, alcohol, tobacco, and soft drinks containing phosphorous.

7. Review on lifestyle modification in the Siddha aspect

7.1 Oil bath

Divan D and Bajpai R, Ayurvedic practitioners, did a clinical investigation on 60 patients with cervical spondylosis in 2018. In this study, the effects of Masha Taila are compared using Abhyang and Nasya, along with Rasnadi Guggulu (orally). 60 patients with Greeva Stambh (Cervical spondylosis) were registered using a special research proforma, and the OPD and IPD of the State Ayurvedic College and Hospital Lucknow provided informed consent. Every patient that was chosen was split into two groups. Five of the patients dropped. Group A- Patients were given Masha Taila (Abhyang) + Rasnadi Guggulu 2 vati (each 500mg) orally with Luke warm water. Group B- Patients were given Masha Taila (Nasya) + Rasnadi Guggulu 2 vati (each 500mg) BD with Luke warm water. The treatment time was three months. Periodic follow-up was used to monitor the efficacy of the treatment. At the end of treatment, Group B has a more substantial result than Group A.

7.2 Purgation

Jain M, Sahoo DP et al in their study about cervical spondylosis followed the following virechana technique. The removal of Doshas from the body through anal channel is known as Virechana (therapeutic purgation). It's an easy treatment to administer and comes with fewer challenges and stress. The best treatment for morbid and elevated Pitta Dosha is thought to be virechana. MriduVirechana is used to treat cervical spondylosis. MriduVirechana refers to the combination of Mandain Virya with opposing Virya, administered in a low dose to Ruksha patients, resulting in less purgation. In cervical spondylosis, MriduVirechana should be done with draksha, warm water, milk, castor oil, etc.

7.3 Yoga

Satyanand v and Gopalakrishnaiah T carried out a randomized control trial among 100 cervical spondylosis patients to evaluate the benefits of yoga. Among them, 50 participants in the case group were asked to attend 30 minutes of yoga with medications for 3 months. In the control group, 50 subjects did not receive any yoga intervention only medications and were asked to complete questionnaires. Each group was evaluated Visual analog scale (VAS) was

used to measure. The results are as follows. In the initial visit, the case group's mean VAS score was 3.46, while the group's mean VAS score was 1.82, compared to 3.06, with a p-value of 0.000. On the VAS, cases had a score of 0.38 compared to 2.12 for controls, with a p-value of less than 0.000. After finishing the third session, or the last visit, the cases who had practiced yoga showed a very significant change in their VAS score.

Jain M, Sahoo DP and Sahoo J (2021) conducted an observational study to assess the possible benefit of a selected group of asana in a group of patients over a short time frame and assess their functional outcome. Totally 30 patients (19 males and 11 females) were included in the study. The "Selected Group of Asana (SGOA)" underwent 30 minutes of supervised practice before beginning an 8-week home program using the normal course of care. Patients were assessed for severity and disability every two weeks during follow-up visits. The NDI score of the patients improved, ultimately reaching 7.40 ± 3.180 , p-value = 0.0001. The post hoc analysis shows that this improvement was also observed at other time intervals (p-value = 0.0001 each time). Finally, the author concluded that the yoga practice "Specific Group of Asana" helped the patients in reducing pain and disability in cases suffering from mild to moderate degrees. He also claims that more extensive, comparative and multi-centric trials have to be carried out in future to establish yoga practices as a treatment modality.

Liu X and Guo Z (2020) conducted a study on 80 patients suffering from cervical spondylotic radiculopathy to rule out the clinical efficacy of yoga in the above-mentioned condition. The patients were split into two groups at random: the experimental group and the control group. Patients in the control group were given standard medical care. The experimental group's patients got yoga sessions. Every action was carried out twice a day for 15 to 20 minutes, two or three times. The VAS pain score, NPQ scale, and cervical joint mobility (CROM) score were compared for the two patient groups before, during, and following a 12-month follow-up period. The control group experienced a significant increase in their VAS and NPQ scores ($P < 0.05$). Activity did not decrease significantly ($P > 0.05$). Yoga practice is more successful in preserving efficacy and preventing recurrence after a time of treatment. The author ultimately admits that cervical spondylosis has been a problem for modern individuals because of things like excessive work hours and bad lifestyle choices. Patients with nerve root cervical spondylosis will experience significant negative effects on their bodily and emotional well-being if they are not treated appropriately.

7.4 Varmam

Dr. Natrajan, a Siddha physician carried out a study among 8 geriatric patients in their hospital. Additionally, he asserts that the medical system of Siddha emphasizes various therapeutic approaches. Varma therapy is included under the category of drugless therapy, which is regarded as the best among them. Since elderly patients suffer from a wide range of illnesses, no novel medication has been found to address the entire spectrum of geriatric treatment. Patients become frustrated with the side effects of taking individual medications for each ailment as a result of this. As a result, they favour drug-free therapy because Varma therapy is special in this regard. Eight elderly patients were divided into two groups: Group A received medication therapy, whereas Group B received drugless therapy. Both group A and group B are seeing good and moderate relief.

8. DISCUSSION

In recent times people have been affected by Cervical region problems frequently due to lifestyle modifications like the use of devices such as desktops, laptops, mobile phones, etc which results in poor posture and structural disorders. The major issue in cervical problems is pain related to the neck and radiating pain to the hand and chest region. This pain affects the mental health of the person and so affects the quality of life. It also prevents the person from actively participating in other events and hence they isolate themselves. Cervical problem also affects the quality of sleep and cause emotional outbreaks and social isolation. For the above reasons, cervical spondylosis is considered as a chronic problem. There are different options for managing clinical problems, which can broadly be divided into conservative and surgical methods. Milder clinical conditions and those who cannot tolerate surgery are treated conservatively and those who are not responsive to the medical treatments and those with disabling neurological syndromes are treated surgically. Taking medications periodically or surgical methods alone cannot help patients to get rid of cervical problems. The Conservative method refers to management and lifestyle modification. The management includes proper diet, exercise, yoga, Varma and external therapies like thokanam, patru, etc.

In this paper, several evidences related to millets have been discussed. Currently many are interested in finding the therapeutic properties of millets and finding their specific phenolic compounds for each activity. In the future Government and NGOs should take it seriously and conduct Randomised Control Trials in patients with certain lifestyle modification disorders like Diabetes, arthritis, spine-related problems, osteoarthritis, etc.

The other major prevention methodology is Yoga. Yoga is one of the branches of Siddha practices. Proper yoga practices from childhood or in day-to-day life in healthy individuals can prevent cervical problems. In the case of affected individuals yoga plays a major role in pain management and postpones the disease severity.

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