



CHRONIC PAIN AND ITS AYURVEDIC TREATMENT MODALITIES: A REVIEW

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Abstract:

An everyday problem like chronic pain can become a serious one, when it hinders the patient's everyday activities. The OTC and opioid overuse only makes this problem worse. Due to the nature of chronic pain, a multimodal treatment approach is expected in its management. More innovative ways like Acupuncture, massages etc. are being tested to deal with it.

Ayurvedic treatment methods like *Panchakarma*, *Shamana Chikitsa*, para surgical techniques and *Yoga* can be effective if used properly. In the papers reviewed in this article, Rheumatoid Arthritis, Osteoarthritis, lower back pain, neck pain, and pelvic pain due to endometriosis are managed with these Ayurvedic methods. They are side effect free when carried out by experts.

This article attempts to focus on the ongoing research in this field on chronic pain and give a brief review of the different therapeutics *Ayurveda* has to offer.

Keywords: Pain, *Panchakarma*, *Raktamokshana*, *Agnikarma*, Ayurvedic Pain relief, Yoga

Introduction:

Most patients come to a Physician to get relief from some kind of Pain. It may be acute due to some trauma, underlying medical condition, or Chronic, which has tested their patience. Pain is like an alarm system in our bodies. Whenever something goes wrong it goes off and signals the brain to pay attention to the specific part. But it can get frustrating when one's body cannot shut off this alarm, and it keeps going on. Imagine living in a house where a security alarm has been blaring for a while and you cannot get it to stop. Chronic pain can be just like this notorious alarm scenario.

Chronic pain can be defined as “The pain that lasts or recurs for more than 3 to 6 months”^[1]. According to a survey published in the Indian Journal of Palliative Care, about 19.3% of adults in India (~30-40% worldwide) suffer from chronic pain. That means every 1 of 5 adults is suffering, which is a big number, considering the population of the subcontinent. About 15.5% of people below 60 years of age, and 23.5% above 60 years of age live with chronic pain. Its prevalence in adult Indian women is greater than in men (♀-25.2%, ♂-12.3%).^[2] All these numbers suggest how common Chronic Pain in India is.

Chronic pain is classified into 7 groups Primary Pain, Cancer Pain, Post-Surgical and post-traumatic pain, Neuropathic pain, Headache and Orofacial Pain, Chronic Visceral Pain, and Musculoskeletal Pain^[3]. We will be focusing mainly on Osteoarthritis, Rheumatoid Arthritis, some other Musculoskeletal conditions, pain due to Cancer and peculiar conditions like Endometriosis (Pelvic Pain).

Chronic pain management remains challenging despite several advances in modern medicine. Pain has always been a part of human life, and in the old days, there were means to address this unpleasant sensation in the body. Because of the difficulties in treating chronic pain conditions and the impending Opioid crisis, one should take a page or two from one of the oldest systems of medicine like Ayurveda to explore the alternatives to standard Pain management modalities.

Before we go any further, let's briefly know what pain is in *Ayurveda*. Pain means *Shoola, Rujā, and Vedana*. Sushrut *Acharya* describes *Shoola* as,

“*Shankusphotanavat tasya yasmat tevrashch vedana*!

Shoolasaktasya lakshyante tasmāt Shoolamihochyate!”^[4]

meaning ‘an extremely unpleasant sensation one might feel as if being hit by a sharp object’.

Sushrut *Acharya* has also described various natures of the pain^[5] like pricked by needles, an ant bite, or sensation of ants walking over a body part, being cut with a sharp weapon or being hit by a blunt weapon, club, being burnt by fire, a scorpion bite (*Aamvata*-Rheumatoid arthritis), etc.

According to Ayurveda, all kinds of pain are mediated through *Vata*. There cannot be a pain without the involvement of vitiated *Vata* (*Vatat Rute Nasti Rujā*)^[6] This *Vata* can be vitiated through many reasons, which can be mainly categorized into two main causes, 1. *Dhatukshayatmak* (from lack of proper nutrients in the body) and 2. *Margavarodhajanya* (Obstructive Pathologies). *Vata* is also vitiated due to changes in the surroundings like temperature, windy weather, etc. In a study published in IASP's PAIN Reports (Yimer, Schultz, et al.)^[7] it was found that 10% of the participant with chronic pain were sensitive to temperature, 4% to relative humidity, 2% to Pressure, and 3% to wind speed. The study concluded with, weather sensitivity among Chronic pain patients is more prominent in some groups. Hence a more tailormade approach in predicting the upcoming pain and also in the subsequent treatment of these patients is necessary. Here the ayurvedic principle saying ‘No two individuals are alike’ holds.

Treatment for Chronic pain in Ayurveda focuses mainly on treating the imbalance of the *Tridoshas* (*Vata, Pitta, Kapha*), especially *Vata* for its role in causing the pain. Ayurveda goes one step forward and talks about preventive measures for all illnesses (*Swathasya Swathya Rakshanam*) with the help of *Aahar* (Diet), *Rasayan Chikitsa*, other lifestyle modifications and following routines (*Ritucharya, Dinacharya*). The curative measures (*Aturasya Vikara Prashamana*) include the use of medicinal herbs, minerals preparations, and use of *Panchakarma* procedures like Medicated enema (*Basti*), Medicated Purgation (*Virechana*), Sudation (*Svedana*), Oleation (*Snehana*- medicated oil massage or ingestion of the medicated *Ghrī* orally). *Nasya* is used in pain related to the head and face (headache and orofacial pain). Practising *Yoga* and *Pranayam* also proves to be beneficial while dealing with Chronic pain, especially when it comes to combating anxiety, and depression caused due to the Chronicity of the pain. There are peculiar procedures carried out in *Ayurveda* to give pain relief like *Jalukavacharan* (Hirudotherapy), *Siravedh* (Bloodletting), *Vedhan Chikitsa, Agnikarma*, etc. This is how Ayurveda is prepared with an arsenal of a variety of treatment options to give relief from these chronic pain conditions.

Modern medicine has been extensively working on chronic pain management. Today the available treatment options for managing chronic pain with modern medicine are somewhat limited. The use of OTC and other prescription medications works only as a temporary salve. Furthermore, long-term use of NSAIDs is known to cause Gastric Ulcers^{[8][9]}. The use of Acetaminophen, however, is unlikely to cause gastric mucosal irritation and hence can be used judiciously, often combined with other medications like Opioids. But even with Acetaminophen, there is a looming risk of Hepatic Damage^[10].

Opioid use and its overuse are a rising concern in many western countries. An Opioid epidemic has been declared in the US. There are other treatment modalities for chronic pain, like surgical procedures which are referred to as a last resort in most cases. In a nutshell, since there are limited options in the management of chronic pain many people are turning towards complementary and

alternative treatment modalities. In the previously mentioned survey, it was found that about only 4.8% of the patients sought a Pain specialist and 18.4% went for Ayurvedic/Homeopathic treatment. Still, about 42.4% were seeing General Practitioners.^[2]

Need For Study:

The chronicity of the pain makes it very difficult to treat. A long-term treatment regime is required, which brings us to the toxicity of modern medicines after long-term use. The growing cost burden is also a point of concern. For the UK economy, the cost is £10 Billion^[11]. For the US, it is \$635 Billion^[12]. The death toll due to opioid overdose in the country(US) in 2019 was 70,630^[13]. The ongoing Opioid Epidemic in the US warrants searching for a new way to deal with chronic pain. Even India is said to be in the emerging stage of leading towards the Opioid epidemic.^[14] National Survey 2019, estimated the prevalence of Opioid use in India to be thrice the global average. About 2.1% of the Indian population is using^[15]. Along with this, the high prevalence makes it very important to address this issue.

In a study carried out by Groenewald et al.^[16], they found that 26.6% of the children in the US had suffered from a pain condition in the past year. Of these, 21.3% used complementary and alternative medicine (CAM). Their parents reported the CAM had benefitted the children in terms of overall improved health, better sleep or reduced stress, etc. The top three reasons parents had opted for CAM were General disease prevention, CAM being natural and the notion of CAM treating the cause and not just the symptoms. 19.5 % of the children using CAM were on Alternative medical systems, like Homeopathy, Ayurveda, Acupuncture, etc. Also, patients using opioids for chronic pain have been widely using Complementary and alternative medicine as an adjunct.^[17] An updated report by the American Society of Anaesthesiologists Task Force on Chronic pain management and the American Society of Regional Anaesthesia and Pain Medicine strongly recommends the use of multidisciplinary interventions while managing chronic pain.^[18]

Why Ayurveda?

Ayurveda dates back to almost 3000years. It has been serving mankind ever since. Ayurveda works in two stages- *Swasthasya Swasthya Rakshanam* meaning, preserving the health of healthy individuals, and *Aturasya Vikar Prashamana* meaning, treating diseased individuals. Acharya Charaka has described groups of herbs that are effective in treating pain. They can be found under “Mahakashaya” like *Vedanasthapak Mahakashaya*(works on any unpleasant sensation, even on *Manas*), *Shoolaprashaman Mahakashaya* (works on bodily pain) and *Angamardaprashamana Mahakashaya*.^[19] Ayurveda also follows a holistic approach. With ongoing research, its efficacy is coming into the light. It focuses not only on pain relief but strives for uprooting the disease too. With scientific backing and lesser or no side effects with long-term use, *Ayurveda* and *Yoga* can prove to be very helpful in alleviating the global burden of chronic pain.

Materials And Methods:

For this article, ancient Ayurvedic texts like Sushrut Samhita and Charak Samhita are referred to explain the concept of pain in *Ayurveda*. I referred to recent research papers on the efficacy and recent trials for Ayurvedic treatment modalities and interventions by *Yoga*. Research articles available from PubMed, and Google scholar were studied.

Literature Review:

With the growing inclination toward multimodal interventions for chronic pain, *Ayurveda* can be seen as a strong candidate for its management. While *Ayurveda* has been on a journey to transcend international borders over the past few decades, several research projects have been carried out in the field. These research projects, case studies and other research articles gauge the efficacy of *Ayurveda* in Chronic pain conditions.

Ayurveda In Rheumatoid Arthritis:

Rheumatoid Arthritis(RA) can be closely compared with the clinical representation of *Aamavata*. With only a handful of disease-modifying drug options available, RA is a difficult condition to treat. It is also a major cause of chronic pain. Medicated enema along with *Shamana Chikitsa* is proving to be beneficial in keeping the pain in check. There are many clinical trials which stress the multimodal therapies in *Ayurveda* over a single treatment modality approach. Sasane et al^[20] conducted a clinical evaluation of the efficacy of *Alambushadi Ghana Vati*(contains *Mimosa pudica*, *Tribulus terrestris*, *Terminalia chebula*, *Terminalia bellerica*, *Embllica officinalis*, *Zingiber Officinale*, *Tinospora cordifolia*, *Operculina turpethum*) and *Vaitarana Basti*(medicated enema described by Chakradutta) in *Aamavata*. The study represents 30 clinically diagnosed patients who were selected randomly and put into two groups. Group A was given only oral medication(*Alambushadi Ghana Vati* – 2tab each 500mg TDS) for 30 days while group B was given additional *Vaitaran Basti*(15 *basti*). The *Vati* due to its higher concentrations of *Trivrutta* helps reduce joint swelling. *Tinospora cordifolia* is antirheumatic, immunomodulatory and anti-inflammatory^[21]. The tablet deals with *Aama* and *Vata* to give relief from cardinal symptoms. *Basti* helps break the obstructions, expelling out the unnecessary waste material

from the guts and disrupting the pathogenesis of the disease. At the end of the therapies, it was concluded that combined treatment with Basti provided better relief than using oral drug therapy alone.

Although combination therapy with *Samshodhana* is more effective, it is not always possible for the patient to stick to the *Basti* regime. Drugs like *Rasona Pinda* are shown to be effective even when not coupled with *Bastikarma*. Dr Abhinav and colleagues^[22] carried out clinical research to test the efficacy of *Rason Pinda* against a COX2 inhibitor, Indomethacin. *Rasona Pinda* with contents like *Allium sativum*, *Curcuma longa*, *Piper longum*, etc offers relief from inflammation, pain, swelling, and stiffness. It also decreases ESR, CRP and RA titre. In this trial, 40 patients were registered of which 35 patients completed the study. They were divided into two groups; A & B. Group A was treated with *Rasona Pinda*(1g TDS) and B with Indomethacin(75mg OD) for 45 days. Follow-up was noted every 15 days. It was observed that *Rason Pinda* alleviated the symptoms and improved general health. Moreover, it was free from side effects. The study concluded by stating that *Rason Pinda* is an effective, cheaper, easy to administer, and with minimum side effects drug for RA. A similar study was conducted by Dr JP Singh and colleagues^[23] from BHU, Varanasi(*Rason Pinda* and Etoricoxib 90) in 2010 which also specified the efficacy of *Rason Pinda* in RA.

Parasurgical Procedures:

Ayurveda is equipped with distinctive procedures to deal with pain conditions, such as *Raktamokshana* and *Agnikarma*.^[24]

Agnikarma (Therapeutic Heat Burns):

It is a nonpharmacological treatment involving, causing heat burns with a heated pointed device called *Shalaka*. In *Sushrut Samhita* various materials ranging from *Piper longum*, and animal teeth to metals like gold, silver and iron are suggested to use in inducing the burn.^[25] Sushrut further states the usefulness of *Agnikarma* in severe pain due to vitiated *Vata* in *Twaka*, *Mamsa*, *Sira*, *Snayu*, *Sandhi*, and *Asthi*.^[26] The use of *Agnikarma* is recommended in *Sandhigata Vata*(OA).

Jethava et al^[27] in their clinical study elaborated on its role in OA of the knee joint. The study was carried out among 28 participants(45-70yrs) who were diagnosed with OA. Care was taken to exclude patients with secondary OA and RA. Pregnant patients were also excluded since they are contraindicated for *Agnikarma*. Routine investigations were carried out. Groups A and B had 14 participants each. *Rajata Shalaka* was used in Group A, while *Loha Shalaka* was used in Group B. The most tender site of the knee joint was selected for the burn. *Triphala Kwatha*, *Haridra churna*, *Aloe barbadensis* and *Madhu-sarpi*(honey+ghee) were used for cleaning, dressing, soothing effect and healing of wounds, respectively. There was a 33.70%(Group A) and a 33.16% reduction in the angle of flexion. Reduction in pain was highly significant in both groups. 28.57% of patients were cured after the therapy and only 3.57% remained unchanged. This therapy's probable mode of action was stated to be through *Ushna*(hot) *Guna* of *Agni*, which reduces the cold *Guna* of *Vata*. It also removes the *Avarana*.^[28] The article concluded by saying *Agnikarma* is an effective treatment for pain relief in patients with *Sandhigata vata*(OA-Knee). Different materials(Silver VS Iron) provide relief in different symptoms of OA. *Agnikarma* is an OPD procedure requiring a minimum amount of equipment and thus can be easily carried out in many eligible patients to give optimum and lasting pain relief. *Agnikarma* can further yield better results when combined with pharmacological interventions(e.g. *Panchatikta Guggulu*)^[29]

Raktamokshana (Therapeutic bloodletting):

Lower Back pain remains the top-ranked cause of disability(by YLD)^[30] from 1990 to 2019. It is a growing concern of many developed countries. Sciatica is also a leading cause of lower back pain. Ayurveda suggests *Raktamokshan* in many painful conditions like *Gridhrasi*(Sciatica). To make complicated procedures easier, new techniques need to be introduced. Sankhua et al^[31] described the Multiple Vacuum Syringe Blood Aspiration Procedure(MVSBAP) for *Raktamokshan* in *Gridhrasi*. It is a combination of *Prachhana*(scraping) and *Ghatiyatra*(vacuum) techniques. The study aimed to assess the efficacy of MVSBAP in *Gridhrasi* patients, study its mechanism, and compare its efficacy with traditional Ayurvedic medicinal treatments. They selected 60 patients and randomly grouped them into A and B(30 patients in each). Group A received traditional Ayurvedic medicine. Group B received MVSBAP along with traditional ayurvedic medicine for 30 days. The area below the medial malleolus of both legs was selected for 1st round of treatment. With the help of modified syringes up to 50ml of blood was aspirated. After 15 days, in 2nd round of treatment, the same procedure was repeated on both sides of the lumbosacral region. Care was taken to properly disinfect the area. In group B 46.67% of patients showed maximum improvement while in group A the percentage was 26.67%. From an ayurvedic point of view, bloodletting removes the *Sthanik Prakupit Doasha* and clears the *Margavarodha*, a part of the *Samprapti* pathogenesis. This brings *Vata* down from its vitiated state and in turn relieves the pain. The paper concluded that Sciatica can be best managed with MVSBAP and traditional medicine.

What's better, *Agnikarma* or *Raktamokshana*?

This question can be answered with the open labelled comparative study conducted by Joshi et al^[32] on 32 patients suffering from *Katisandhigata Vata* (Lumbar spondylosis). Group A was given *Agnikarma* with *Panchadhatu Shalaka* and group B underwent *Raktamokshana* with modified *Shringa Yantra*. After comparing the observations it was found that *Agnikarma* gave better relief to pain and numbness of the lower back, while *Raktamokshana* yielded better results in lowering the stiffness of the lower back. It was further concluded that both procedures give relief from pain, but *Agnikarma* is more effective in *Katisandhigata Vata* than *Raktamokshana*.

Pelvic Pain In Endometriosis:

A case report^[33] presented by A Muraleedharan et al., for Ayurvedic Treatment Protocol for Chronic Pelvic Pain in Endometriosis gives a brief idea of how *Ayurveda* and the tools provided in Ayurveda can be used in treating conditions like Endometriosis. The patient was a 44-year-old female, diagnosed with endometriosis. She had been living with chronic pelvic pain for the past 20 years. The patient was also diagnosed with depression for which she was taking treatment (SSRI and Vit B12) for the past 10 years. The study includes extremely detailed history taking and examinations. To treat a condition with *Ayurveda*, it is very important to understand its pathogenesis from an Ayurvedic point of view. A probable diagnosis according to Ayurvedic texts was made: *Vatiki/ Udavrtini Yoni Vyapat*. For the treatment, the patient was given *Deepana Pachana* followed by *Snehapana* for correcting the digestive fire (*Agni*). Preparatory therapy was carried out with *Snehana* (external oleation) and *Svedana* (sudation). The *Pradhan Karma* included *Mridu Virechana* (medicated purgation), *Yogabasti* (medicated enema) and *Uttar Basti* (intrauterine instillation of medicated formulation). This entire protocol had a definite purpose: to cleanse or bring down vitiated *Vata* and correct the *Agni*, which would decrease the pain. According to the authors, this study can be looked at as a stepping stone in Ayurvedic Pain management. Although a more detailed study with a larger number of participants is necessary.

Yoga In Chronic Pain:

Yoga and Ayurveda go hand in hand and both are complementary to each other. Yoga has been helping humans to lead a disease-free life for thousands of years. It is also found very effective in the management of chronic pain as well. *Yoga* programmes are being held for US Military veterans to deal with PTSD and Opioid addiction.^[34] A Randomised Clinical Trial carried out by Groessl et al.^[35] regarding this caught my attention. The study,^{[36][37]} shows that *Yoga* interventions are useful in reducing pain and disability among adults with Chronic Lower Back Pain (cLBP) and are safe. Participants with cLBP were carefully selected with optimal selection criteria. A total of 152 were randomised into two groups, either *Yoga* or Delayed *Yoga* treatment (2013-2015). This study also incorporated intention-to-treat (ITT) analysis with regular assessment at baseline, 6 weeks, 12 weeks and 6 months before ITT (2016). Instructor-led *Yoga* classes with home practice were prescribed. At 6 months, the *Yoga* participants showed higher reductions in Roland Morris Disability Questionnaire scores than the other group. (57% of the *Yoga* group participants showed a 30% reduction in the RMDQ scores at 6 months). It demonstrated significant improvements in pain among military veterans with cLBP, who face more challenges and problems than many other civilians. The study also proves to be a milestone in establishing *Yoga* as an evidence-based treatment for cLBP.

There are other studies which show the efficacy of *Yoga* in pain management. In a pragmatic RCT published in The Journal of Rheumatology (2015) by Moonaz et al., it was observed that *Yoga* may help increase physical activities in people with arthritis leading a sedentary life^[38]. Cancer patients with ongoing chemotherapy have many challenges, chemotherapy-induced peripheral neuropathy is one of them. According to Zhi et al. with the incorporation of *Yoga* into their lifestyle, a reduction in the level of anxiety may be seen.^[39] These are just a few examples of how useful *Yoga* can prove to be in pain management. Although more rigorous researches need to be done in this area to bring forth the potential.

Sattva And Pain:

Sattva holds a very important place in *Ayurveda*. It is a *Guna* (quality) of mind and plays a crucial role in the prognosis of diseases. Sometimes a physically strong-looking person cannot tolerate even a little pain, whereas a thin, weak-looking person can tolerate much severe pain. *Ayurveda* describes this with the help of *Sattva*. Since Sattva is a quality of mind, a person with *Pravara* (strong) *Sattva* can better tolerate severe pain and is brave, confident, patient, and grateful. While a person with *Heen* (weak) *Sattva* can't stand even the slightest inconvenience and is easily scared and impatient. The severity of many conditions also depends upon this *Sattvaguna*. Hence the stronger the *Sattva*, the better the prognosis of the disease.^{[40][41]}

Conclusions:

Chronic pain might be one of the most common health problems in Indian settings but at the same time, it does not attract much attention from the health systems. The lack of dedicated pain clinics in the country makes it extremely difficult to address the issue effectively. Since chronic pain management calls for a multimodal approach, Ayurveda presents itself along with its variety of techniques for pain management. The use of *Bastikarma* and *Rasona Pinda* can be incorporated into the treatment plan for RA. *Panchakarma* with *Shamana Chikitsa* helps manage the disease effectively, in a long run. Besides para surgical procedures like *Agnikarma* and *Raktamokshana* give satisfactory relief from OA and *Katisandhigata Vata*. Even conditions like pelvic pain due to Endometriosis are being treated with *Mridu Virechana*, *Yogabasti*, *Uttar Basti* and *Shamana Chikitsa*. *Yoga* as an adjunct in pain management is also a good option with multiple benefits like pain relief and mental stress relief. The importance of the power of the human mind cannot be ignored hence Aacharya described *Sattvasarata* and how it affects the results of the treatment and the extent of the relief. All these therapies need to be brought into the mainstream so more patients can seek the benefits.

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