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Exploring Ayurvedic insights and approaches for managing low back pain: A comprehensive review

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Abstract

Introduction: Back pain, in India is quite common affecting about 6.2% of the population and skyrocketing to a 92% among construction workers. This condition not poses medical challenges but also has significant economic implications since it ranks high on the list of causes for disability. Although some people may naturally recover from this ailment it still puts a strain on healthcare resources. In this article we critically examine treatment methods while highlighting the importance of adopting a comprehensive strategy to address, back pain in an efficient and cost effective manner.

Aims and Objectives: The main focus of this study is to provide descriptions of back pain a condition that affects a significant percentage of adults (70-85%). Our goal is to bridge the gaps in research by examining the knowledge, about low back pain found in classical *Ayurvedic* texts.

Materials and Methods: In order to achieve this objective we conducted a review of articles published in reputable journals. Our review specifically focused on the background of back pain, sciatica and lumbar radiculopathy. We systematically searched databases such as PubMed, Google Scholar, Scopus and others. Our aim was to extract and analyze information pertaining to types of back pain described in *Ayurvedic* classics.

Observations and Conclusion: The impact of pain can be severe both medically and economically. It ranks as the leading cause of disability for individuals under the age of forty five and third leading cause for those over forty five. It is crucial to understand the severity of this condition in order to effectively manage it while keeping costs under control.

Results: Our review uncovered an understanding of conditions related to low back pain found within *Ayurvedic* texts. These include *Katishoola*, *Katigraha*, *Gridhrasi*, *Trikshoola*, *Trikvedna* and more. Additionally we gained insights into their pathophysiology through *Samhita*'s along, with their recommended treatment methods as well as *Pathya* and *Apathya*.

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Keywords: Low Back Pain, Lumbar Pain, *Katishoola*, *Katigraha*, *Gridhrasi*, *Trikshoola*, *Trikvedna* Sciatica, Lumbar Radiculopathy, Backache, *VataDosh*a, Pathophysiology, Cost-Effective Management, Disability

Introduction

Low back pain is the primary cause of impairment among people under the age of 45 and the third greatest cause of disability among those over the age of 45, both of which may be financially and medically catastrophic. The medical system usually fails to recognize this condition early, resulting in disproportionate medical and economic consequences^[1]. The occurrence of pain (LBP), in India varies greatly with rates ranging from 6.2% in the general population to as high as 92% among construction workers.

This significant difference can be attributed to factors such, as the groups being studied, research goals, demographics and the varying definitions of pain used in different studies [2]. Men are often affected in their 40s, while women are affected in their 50s and 60s [3, 4]. Back pain usually occurs due to strain in the muscles or soft tissues including ligaments and tendons connected to the vertebrae. In instances the intervertebral disc may experience strain causing it to bulge out (herniate) and put pressure on nerves resulting in conditions such, as sciatica [5]. Discomfort, in the area is commonly referred to as low back pain. It is considered acute if it lasts for than 6 weeks sub-acute if it persists for 6 to 12 weeks and chronic if it continues for more than 12 weeks [5]. Some classify it into two as acute (lasting for 6-12 weeks) and chronic [6].

In the texts, various terms were used to describe ailments related to the back. One such term was "*Pristagraha*," which referred to stiffness in the back. Another term, "*Gridhrasi*," that is associated with sciatica. It is categorized as *Vataja Nanatmaja Vyadhi*, a condition primarily caused by imbalanced *Vata Dosha* [7]. *Acharya Charaka* mentioned "*Jangha Uru Trika Prista Roga Sosha*" as a symptom of *Gudagata Vata* indicating diseases that affect the leg, thigh, hip, and back while causing emaciation [8]. The term "*Gridhrasi*" is equivalent to modern-day sciatica. It is described as a *Vata Vyadhi* [9]. It is characterized by hip pain followed by involvement of the lumbar region, back, thigh, knee, leg, and feet. It can also be accompanied by pulsatory sensations [10]. Additionally, "*Katinistoda*" refers to pricking lumbar pain and is considered a symptom of *Vatarakta* [11]. "*Trikvedana*" denotes pain in the hip region associated with imbalanced *Vata* in the tract [12]. On the other hand, "*Kubjata*" represents a spine linked to imbalanced *Vata* affecting musculofibrous and ligamentous structures [13]. In "*Charaka Samhita*," the terms "*Antarayam*" and "*Pristayam*" are used to describe deformed conditions of the back related to disorders [14, 15].

In "*Bhel Samhita*," "*Katishoola*" is classified as a *Vata Vyadhi*, referring to conditions causing back and lumbar pain. These conditions are often associated with complications arising from *Panchkarma* procedures of *Vamana*, and *Virechana* [16].

In the "*Susruta Samhita*," "*Kativedana*" is mentioned as a symptom of "*Bhagandara*" (Fistula in ano) and "*Vridhhi Roga*" [18, 19]. Additionally, "*Gridhrasi*" is described in the "*Susruta Samhita*," emphasizing its nature. This condition leads to the loss of motor function in the ankle and toes due to imbalanced *Vata Dosha* [20]. To treat "*Gridhrasi*," a *Raktmokshan* (bloodletting procedure) subtype called "*Siravedhan*" is recommended [21].

In "*Harita Samhita*," it is mentioned that "*Katishoola*" can be a symptom of "*Gridhrasi*" [22]. The "*Kashyap Samhita*," identified causes of "*Katishoola*" in cases, including excessive walking [23]. The "*Gadnigraha*" by *Sodhala* provided information about the symptoms, pathogenesis, and formulations for treating "*Katigraha*" [24]. In the "*Bhava Prakash*," they distinguished between "*Trik Shoola*" and "*Katigraha*," with "*Trik*" referring to the area around the joint of the column and hip bones [25]. "*Yogaratanakar*" introduced terms like "*Kati Sandhigata Vata*," "*Kati Vata*," and "*Trikshoola*" [26]. Additionally, in "*Sharangdhar Samhita*," they classified "*Katishoola*" under the category of "*Vataj Nanatmaj Vikara*" [27].

Causes

According to various texts, the dietary factors that contribute to *Kati Shoola* include a range of characteristics such as *Kashaya* (astringent), *Katu* (pungent), *Tikta* (bitter), *Rooksha* (dry), *Laghu* (light), *Sheeta* (cold), *Alpabhojana* (light meal), *Abhojana* (fasting), *Vallura* (dry meat), *Shushka Shaka* (dried vegetables), *Uddalaka* (variety of barley), *Neevara* (variety of rice), *Mudga* (green gram), *Masura*, *Harenu*, and *Kalaya* (pea).

Lifestyle causes of *Kati Shoola* include *Ati Vyayama* (excessive physical activity), *Langhana* (fasting), *Plavana* (swimming), *Atyadhwa* (long-distance walking), *Pradhavana* (running), *Pratarana* (jumping), *Atyuchabhashana* (excessive talking), *Balavadvighraha* (intense physical activities), *Abhigata* (physical injury), *Marmaghata* (trauma), *Bharaharana* (carrying heavy loads), *Dukhashayya*, *Dukhasana* (sitting on hard surfaces), *Sheegrhayana* (sudden exposure to cold), *Prapedana* (excessive lying down), *Atiadhyanaya* (excessive reading or studying), *Ativyavaya* (excessive sexual activity), *Atijagarana* (staying awake at night), *Vegadharana* (sudden cessation of physical activity), *Vishamopachara* (irregular lifestyle practices), *Shrama* (exhaustion), *Upavasa* (fasting), *Puravatasevana* (excessive wind consumption), and *Divasvapna* (daytime sleep).

Pathogenesis

Kati Shoola, is often caused by an aggravated *Vata Dosha*. It primarily manifests as localized pain in the lumbar and sacroiliac region. The main factors contributing to this pain include an imbalance in *Vyana Vata*, which leads to friction due to reduced *ShleshakaKapha* in the joints. Additionally, *Abhigata* (referred to as injury) can also trigger this type of pain. Generally, the pain does not radiate down to the limb unless there are issues with the discs. The presence of *Vata* in the lumbar region results in a depletion of *ShleshakaKapha* in the joints, making movements like flexion, extension, lateral flexion, and rotation difficult. The severity of the pain can vary depending on factors such as the site of injury and its duration.

Management

In *Samhitas Acharyas* extensively explained various treatment methods, for back pain. They focused on procedures like *Virechana* (purgation) *Basti* (enema) *Purvakarma* (*Swedana* and *Snehana*) and *Katibasti* (localized external oil application) as part of *Panchkarma*. The main objective of these treatments was to restore balance in the *Vata Dosha*, which is believed to be the cause of pain. (28) Interestingly *Acharya Sushruta* even recommended *Siravedhana* (bloodletting) for low back pain or sciatica. In addition, to these procedures oral preparations are often described. Nowadays *Ayurvedic* practitioners are incorporating *Marma* Therapy into their practice, which involves stimulating points to address musculoskeletal disorders. This time-tested therapies offer cost alternatives that show potential in managing pain when compared to mainstream approaches.

Snehan is a part of treatment, for *Kati Shoola*. Depending on the patient's condition *Snehan* can be given internally through *Snehapana* (consuming ghee or oil) or externally through practices like *Abhyanga* (oil massage) or *Avagaha* (herbal bath). However, it's important to note that *Snehan* may not be suitable for patients with conditions like *Ama*,

Avritavata, *Ajeerna* (indigestion) or *Aruchi* (tastelessness) [29].

Swedana is another aspect of treatment for managing *Kati Shoola*. It eliminates toxins, reduces pain and improves flexibility in the back region. Among the *Swedana* procedures *Kati Basti* is particularly effective, for *Kati Shoola*. *Swedana* can be administered not to the back area known as *Kati Pradesha* but also, to other affected body parts like the back or *Prishtha* depending on the individual's condition. Additional *Swedana* techniques include *Avagaha Sweda*, *Pizhichil*, *Nadi Sweda*, *Patra Pinda Sweda*, *Pinda Sweda*, and *Upanaha Sweda*. The application of *Swedana* plays a role in relieving pain, improving mobility and enhancing well-being, for individuals experiencing *Kati Shoola* [30].

Basti therapy, an aspect of treating *Kati Shoola* involves enema of different types such as: *Erandamuladi Niruha Basti* for *Kati Shoola* [31], *Vaitarana Basti*, for *Kati Shoola* [32], *Pippalyaldi Anuvasana* [33].

Here are some *Shamana Aushadhi* that are used in the treatment of *Kati Shoola*:

In the category of *Kashaya* (decoctions), there are formulations as-*Sahacharadi Kashaya* [34], *Dashamoola Kashaya* [35], *Rasnaerandadi Kashaya* [36], *Rasnadi Kashaya* [37], *Maharasnadi Kashaya* [38].

Choorna (Powders) are also utilized for managing *Kati Shoola*. These include *Ashvagandhadi Churna* [39], *Ajamodadi Choorna* [40], *Chopachini Choorna* [41].

Another form of treatment is *Leha* (medicated pastes) which involve formulations like *Eranda Paka* [42], *AjaMamsa Rasayana* [43], and *Amrita Bhallataka Leha* [44].

Guggulu (Resin based formulations) also play a role in treatment. Some options include *Mahayogaraj Guggulu* [45], *Trayodashanga Guggulu* [46], and *Lakshadi Guggulu* [47].

Sneha (Oils and medicated oils) are essential in *Ayurvedic* treatment for *Kati Shoola*. Oils, like *Sahacharadi Taila* [48], *Mahamasha Taila* [49], and *Prasarini Taila* [50], are used to alleviate the condition.

Pathya – Apathya: Pathya [51] *Ahara* (Dietary Habits): It is advisable to include sour and salty tastes in your diet to maintain harmony. Incorporate grains like wheat, rice (including rice and a specific type of rice called *Shashtika Shali*) well as pulses such as sesame seeds, black gram and horse gram into your meals. To ensure an intake of vegetables focus on consuming gourd, drumstick, brinjal and garlic. If you consume meat then options, like camel, cow, *Varaha* (boar) *Mahisha* (buffalo) *Magura* (hare) *Bheka* (frog) *Nakula* (mongoose) *Chataka* (sparrow) *Kukkuta* (rooster) *Tittira* (partridge) and *Kurma* (tortoise). Drink water of room temperature and coconut water.

Vihara (Lifestyle): When it comes to *Vihara*, which refers to our lifestyle, we should emphasize on the importance of maintaining a mind fully approach, to taking care of our mental wellbeing. To enhance our lifestyle make sure to incorporate elements like choosing *Veshtana* (clothing) managing our *Trasana* (thirst) indulging in *Mardana* (massages) taking regular *Snana* (baths) and adorning our self with *Bhushayya* (ornaments) as part of our daily routines. Additionally engaging in activities such as physiotherapy exercises practicing *Asanas* (yoga postures) and enjoying steam baths can greatly contribute to supporting both our mental health.

Apathya: [52] When it comes to *Ahara* focusing on tastes and

food choices to maintain a healthy life, it's important to include taste, like spicy, bitter and astringent in our diet. When selecting grains or cereals we can go for options such as barley, ragi, millet, rice and a type of rice called *Shyamaka*. In the pulses or legumes category consider including gram, *Mung* (green gram) field bean and a type of lentil called *Rajamasha* in our meals. For fruits prioritize *Jambu* (blackberry) *Udumbura* (fig) *Kramuka* (bilva) and *Tinduka* (tamarind). If you consume vegetarian food items you may consider *SushkaMamsa* (dried meat) *Kapota* (pigeon) and *Paravata* (quail) from the meats category. Limit your consumption of modern fast food as well, as cold beverages and alcoholic drinks.

Vihara (Lifestyle): When it comes to *Vihara*, to take care of our health it is recommended to manage stress by avoiding things that cause *Chinta* (worry) *Shoka* (grief) and *Bhaya* (fear). When it comes to our activities we should try to avoid periods of standing or sitting especially if we have a sedentary job. It's beneficial to take breaks and engage in activities, like physiotherapy exercises, *Yoga Asanas* or steam baths to promote both health and mental harmony. By following these lifestyle guidelines we can align ourselves in order to improve our health and vitality.

Discussion

Ayurvedic principle has the concept of three *Doshas-Vata*, *Pitta*, and *Kapha*. They're essential, for the body's constitution and various bodily functions. Among these *Vata Dosha* plays a role as it governs and regulates *Doshas*. It is closely associated with the system overseeing motor activities and also plays a part in pain regulation (*Charaka Samhita*, Chapter XX). In *Charaka Samhita*, *Acharya Charaka* attributes pain to an imbalanced *Vata Dosha*. Provide insights into its causes such as dietary habits, lifestyle choices and traumatic events. These imbalances can disrupt the harmony of *Vata* that leads to ailments related to *Vata* (*Charaka Samhita*, Chapter XXII). This condition results in numbness, motor disturbances pain accompanied by inflammation. *Vata Dosha* and *Asthi Dhatu* or bony tissue are related to each other. (*Astang Hridaya* Chapter XXV). It explains how fluctuations, in *Vata* can affect this tissue. As people grow older a rise, in *Vata Dosha* can contribute to the development of conditions. This sheds light on the knowledge regarding the causes of radicular low back pain, in elderly individuals. *Samhita's* texts also mention conditions such as *Katishoola*, *Gridhrasi*, *Katigraha*, *Stambha*, *Kubjata*, *Antarayamand Bahirayam*. These references provide insights into localized pain radiating pain limitations in back movement's deformities in the back and spine and related pathologies. Low back pain can be a symptom of diseases according to *Charaka Samhita* and *Susruta Samhita* demonstrating its understanding of pain related conditions. The therapeutic approaches like *Panchkarma* procedures *Siravedhana* (bloodletting) oral herbo mineral preparations and *Marma* Therapy are used for these conditions. These ancient practices rooted in knowledge offer cost potentially promising alternatives to mainstream therapies, for managing pain.

Conclusion

In summary the problem of pain has become a widespread concern, in modern society affecting a significant portion of the population. Despite its prominence back pain and related conditions like sciatica, sacroiliitis and spondylitis have a

long history that has been influenced by various cultures over time.

The *Samhita*'s texts demonstrate an understanding of painful lower back conditions such as *Katishoola*, *Katigraha*, *Gridhrasi*, *Trikshool*, *Trikvedna* and more. *KatiShoola* requires consideration during examinations whether it occurs independently or as a complication of other diseases. Its management depends on factors like the stage of presentation. It can be effectively addressed through an approach involving *Panchakarma* treatments *Shamana* therapies and mindfully adjustments to diet and lifestyle. This combination of wisdom with practices offers promising possibilities, for managing low back pain in today's world.

Rationale for this Review and Prospects for Future Research

This article seeks to provide insights, into the viewpoints regarding low back pain with a focus on *Ayurveda* principles. It underscores the potential of *Ayurveda* in managing pain and encourages continued exploration and application of this approach, in the field.

Conflicts of Interest

There are no conflicts of interest.

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