



PREVENTIVE AND CURATIVE MEASURES FOR MUSCULOSKELETAL DISORDERS: AN AYURVEDIC PERSPECTIVE

Ayurveda

Sangeeta Sangvikar*	Research Officer (Ayu.) Central Council for Research in Ayurvedic Sciences (CCRAS) - Central Ayurveda Research Institute (CARI) Moti bagh Road, Patiala. *Corresponding Author
Jyotsna Gorsri	Consultant Ayurveda, Central Ayurveda Research Institute (CARI), Moti bagh Road, Patiala.
Ritu Yadav	Consultant Ayurveda, Central Ayurveda Research Institute (CARI), Moti bagh Road, Patiala.
S.N. Murthy	Director (Institute), Central Ayurveda Research Institute (CARI), Moti bagh Road, Patiala.

ABSTRACT

Musculoskeletal disorders (MSDs) represent a foremost global cause of pain, disability with socioeconomic burden. In Ayurveda, the traditional Indian System of Medicine (ISM), numerous MSDs can be classified within the spectrum of Vatavyadhi, which is a condition caused by vitiation of Vata Dosha. Several MSDs are grouped together under the Ayurvedic term vatavyadhi, because they impact the muscles, bones, joints, and associated tissues, MSDs causing pain and functional impairment. Ayurveda, provides an extensive framework for the prevention and management of MSDs through Seasonal (Ritucharya) and Daily (Dinacharya) regimens, Dietary recommendation, Lifestyle changes, and Rasayana therapy. The potential of Ayurvedic preventative and therapeutic measures for MSDs to lower disease burden and improve quality of life is reviewed in this research paper through literary review. The prevalence and progression of musculoskeletal problems can be decreased by effectively implementing Ayurvedic concepts into modern healthcare and lifestyle practices.

KEYWORDS

Vatavyadhi, Musculoskeletal Disorders, Disability, Dinacharya, Ritucharya, Rasayana.

INTRODUCTION

Musculoskeletal disorders (MSDs) are a serious public health concern worldwide, contributing significantly to disability, chronic pain, and reduced quality of life. They cover a broad spectrum of conditions affecting the muscles, bones, joints, tendons, ligaments, and associated structures. Globally, MSDs are among the primary causes of years lived with disability (YLDs), accounting for a significant economic and social burden due to long-term treatment costs and productivity loss^{1,2}. Commonly reported MSDs include low back pain, osteoarthritis, rheumatoid arthritis, fibromyalgia, and cervical spondylosis³. From an Ayurvedic perspective, MSDs can be broadly correlated with Vata Vyadhi. In Ayurveda, Vatavyadhi refers to diseases caused by an imbalance or vitiation of the Vata Dosha, which is responsible for regulating movement and various biological functions, when aggravated, leads to derangements in the musculoskeletal and nervous systems⁴. These disorders are mainly classified into two types: Dhatukshayajanya, which arising from tissue depletion, and Margavrodhajanya, which is caused by obstruction in the body's channels. Acharya Charak describes eighty types of Vata Vyadhi, manifesting with clinical features such as stiffness, pain, restricted mobility, deformities, and neurological deficits⁵. Similarly, Acharya Sushruta highlights the role of improper diet, lifestyle, trauma, and ageing in the pathogenesis of Vata Vyadhi⁶, which is commonly seen in clinical practice, refers to a wide range of disorders caused by exacerbated Vata Dosha. Understanding the role of Vata Dosha and its effects is necessary for effective diagnosis and treatment, making it an important aspect of maintaining overall health in Ayurvedic medicine. The overlapping features between modern descriptions of MSDs and Ayurvedic explanations of Vata Vyadhi suggest an integrative approach may be beneficial for understanding their etiology, pathogenesis, and management^{7,8}. The preventive aspect in Ayurveda emphasizes maintaining the balance of Doshas, Dhatus, and Agni through proper lifestyle, dietary regulations, seasonal adaptation, and rejuvenative therapies⁹.

Preventive and Curative Measures in Ayurveda

Ayurveda provides a comprehensive preventive and curative framework through its Swasthavritta (preventive health) and Chikitsa (therapeutic) principles.

1. Dinacharya (Daily Regimen): Ayurveda recommends daily practices such as Abhyanga (oil massage), Vyayama (moderate exercise), Swedana (fomentation), and proper sleep to strengthen musculoskeletal structures and prevent degenerative changes¹⁰. Abhyanga with medicated oils like Ksheera Bala Taila or Mahanarayana Taila nourishes muscles, joints, and ligaments, thereby

preventing stiffness and fatigue¹¹. Moderate Vyayama (exercise) suited to one's strength and age is advised to maintain Mamsa (muscle tone) and Sthirata (stability) of joints. However, excessive exercise is contraindicated as it aggravates Vata Dosha, leading to depletion of Dhatus and muscular fatigue¹². Proper Ahara (diet) as part of Dinacharya, consisting of warm, unctuous, and nourishing foods, supports Agni and replenishes depleted tissues, preventing the formation of Ama which obstructs Srotas. Additionally, regular and adequate Nidra (sleep) is emphasized as a natural restorative measure that nourishes body and mind, pacifying aggravated Vata Dosha¹³. Furthermore, daily practices such as Nasya (administration of medicated oil through the nasal route) and Padabhyanga (foot massage) are described as specific measures to prevent Vata aggravation, respectively¹⁴.

2. Ritucharya (Seasonal Regimen): Seasonal regimens help adapt the body to climatic variations that may aggravate Vata Dosha and predispose to MSDs. For example, during Hemanta and Shishira Ritu, Vata aggravation is prevented through unctuous, warm, and nourishing diets along with Ghee, Tail (oils), Mamsa Rasa (meat soups), Dadhi (curd), Payasa (milk preparations), and cereals like wheat and rice, which provide strength and lubrication to joints¹⁵. The intake of Madhura (sweet), Amla (sour), and Lavana (salty) Rasa is recommended as these tastes counteract the Ruksha (dry) and Sheeta (cold) properties of aggravated Vata¹⁶.

Daily practices such as Abhyanga (oil massage) with warm oil, Swedana (fomentation), and Snana (warm bath) are advised¹⁷. Warm clothing and protection from cold winds are emphasized to prevent exposure to Sheeta Guna, which is a major causative factor for Vata vitiation. Furthermore, moderate physical exercise (Vyayama) is recommended in these seasons as body strength is at its peak¹⁸.

3. Pathya-Apathya: In Ayurveda, the role of Pathya (wholesome diet and regimen) and Apathya (unwholesome factors) is considered equally important as medicine in the management of diseases. Diet plays a critical role in preventing MSDs. Vata-pacifying diets with Snigdha, Ushna, Guru & Madhura Dravyas are recommended. Ksheera (milk), Ghrita (ghee), Taila (oils like sesame oil), Yusa (light soup of pulses with ghee), Mamsarasa (meat soup of Gramya animals) are also recommended.¹⁹ Excessive intake of dry, cold, and light foods, excess intake of pulses (like Masura, Chanaka, Kulaththa without unctuousness), raw vegetables, stale and frozen food should be avoided as they aggravate Vata and contribute to musculoskeletal weakness. Excessive fasting, irregular meals, dry meat, excessive

spicy or bitter foods are also contraindicated.⁹ Regular Vyayama (exercise) within individual capacity enhances musculoskeletal strength, flexibility, and endurance. Yogic practices such as Bhujangasana, Vajrasana, Pawanmuktasana, Shavasana, Shalabhasana, Tadasana, and Surya Namaskar improve posture, reduce stiffness, and enhance blood circulation, thereby preventing MSDs²⁰. Exposure to cold, dry wind, trauma, excessive traveling, suppression of natural urges are to be avoided. Ati-vyayama (excessive exercise), Ati-vyayaya (excessive sexual indulgence), Ati-ratrijagarana (night vigil) – all lead to Vata vitiation.²¹ Mental stress, anxiety, excessive worry also aggravates Vata Dosha.²²

4. Shamana Chikitsa: Shamana Chikitsa refers to the pacification of aggravated Doshas within the body without expelling them out, by employing internal and external therapies.²³ Shamana Chikitsa (palliative therapy) involves administration of Vata-pacifying herbs such as Erand (Ricinus communis), Shallaki (Boswellia serrata), and Nirgundi (Vitex negundo) etc., which possess anti-inflammatory, analgesic, and rejuvenating properties. In Tail and Ghrit Kalpana (medicated oils and ghee)- Kshirabala Tail, Mahanarayana Tail, Sahacharadi Tail, Bala Tail, Dhanvantaram Tail, Rasnadi Tail and Dashamuladi Ghrit can be used. In Guggulu preparations: Yogaraja Guggulu, Mahayogaraja Guggulu, Trayodaanga Guggulu, and Sinhanada Guggulu can be used. In Kashaya: Dashamula Kwath, Eranda Mula Kwath, Rasna Saptaka Kwath can be used. In Churna Kalpana: Ashwagandha Churna, Bala Churna, Shatavari Churna can be used.²⁴

5. Sanshodana Chikitsa: Acharya Charaka states that Vatavyadhi should be treated first by Snehana and Swedana, followed by Sanshodana therapies like Basti, Virecana and Vamana as per Doshas involvement. He specifically considers Basti as Ardha Chikitsa (half of entire treatment) in Vata disorders.²⁵ Basti being the supreme therapy as mentioned by all classical texts. Its role is not only therapeutic but also preventive, as periodic Basti-Karma has been advised to maintain Vata Dosha balance in healthy individuals, especially during Varsha Ritu (monsoon), when Vata Dosha tends to aggravate. Acharya Sushruta explains that Niruha Basti with appropriate decoctions, combined with Anuvasana Basti with medicated oils, is highly effective in Vata disorders.²⁶

6. Rasayana Therapy (Rejuvenation): Rasayana therapy is an essential for rejuvenation, promoting longevity, and strength. In the management of vitiated Vata Dosha, Rasayana plays a vital role by nourishing Dhatus and pacifying aggravated Vata Dosha through Snigdha (unctuous), Guru (heavy), and Ushna (warm) properties with Madhura Rasa. Rasayana herbs such as Ashwagandha (Withania somnifera), Shatavari (Asparagus racemosus), Guggulu (Commiphora mukul), and Amalaki (Embolica officinalis) nourish Dhatus, delay degenerative changes, and improve musculoskeletal resilience²⁷. Thus, Rasayana therapy offers both preventive and curative measures by maintaining Dhatu Samyata and delaying senile Vata disorders.

7. Sadvritta (Code of Conduct) and Achara Rasayana: Improper lifestyle habits, mental stress, and irregular routines contribute to Vata Dosha vitiation and MSDs. In this hectic compromising world to manage the physical and mental well-being, one has to adopt Achara Rasayana and Sadvritta. Achara Rasayana is essential for avoiding or treating Vatavyadhi, particularly psychosomatic and neurological disorders, since it stabilizes the mind, which calms Vata Dosha. It helps to stabilize Vata Dosha through mental calmness, practice of maintaining balance timing within sleep and wakefulness, avoid suppression of natural urges, practice regular meditation, chant calming mantras, and taking Sattvika Ahara (diet) as a practice for well-balanced and easily digestion, which allowing for optimal absorption, assimilation and metabolism for tissue level and to functioning properly for mental and physical health. Integration of Achara Rasayana with Ahara (food), Vihara (lifestyle), and Aushadhi (medicine) ensures a holistic approach to Vatavyadhi management in Ayurveda.²⁸

DISCUSSION

Musculoskeletal disorders (MSDs) are a significant burden on global health systems, and their prevalence is increasing as a result of sedentary lifestyle, occupational strain, age, and stress. The Ayurvedic perspective on musculoskeletal health offers a preventive and holistic approach through the regulation of Vata Dosha, which is primarily responsible for movement, neurological coordination, and structural

stability. Ayurvedic regimens like Dinacharya (Daily routine), Ritucharya (Seasonal routine), Yoga & pranayama, Pathya-Apathya, Shamana, Shodhana, and Rasayana Chikitsa provides preventive and therapeutic methods for maintaining musculoskeletal diseases.

Aahara (Balanced diet) suited to one's constitution (Prakriti) helps maintain health & Vihara (lifestyle). Daily Vyayama (appropriate exercise) yoga & pranayama and Panchakarma therapies as Abhyanga (oil massage), Swedana (sudation) & Basti (medicated enema). Abhyanga support circulation, joint flexibility, and muscular tone, all this reduces the chance of degeneration. In cold and dry seasons, Ritucharya provides seasonal adaptation, which help to avoid the Vata Dosha aggravation. A healthy Diet plays an essential role in maintaining musculoskeletal integrity. Dietary measures with Snigdha, Ushna, and Guru qualities can prevent emaciation produced by aggravated Vata Dosha. Diet enriched with Ghrita (ghee) and Taila (oils), helps neutralized the Rooksha (dry) and Sheeta (cold) properties characterized by vitiated Vata Dosha. In Ayurveda, curative measures such as Shodhana Chikitsa (purificatory therapies) and Shamana Chikitsa (palliative therapy), use to target the root cause, focus on the Samprapti Vighatana (breaking the pathogenesis). Shamana Chikitsa offers a comprehensive, gentle, and sustainable treatment approach to musculoskeletal disorders by correcting Agnimandya, removing Ama, and by balancing Vata Dosha. When combined with Snehana, Swedana, Rasayana, and Pathya, it not only reduces symptoms but also promotes long-term musculoskeletal health and prevents recurrence²⁹. Shodhana therapies that promote tissue detoxification, lubrication, and rejuvenation. By removing the vitiated Doshas, it not only eliminates symptoms but also addresses the underlying cause of disease. Among the Panchakarma procedures, Basti Karma is most of importance in Vata Vyadhi. Rasayana Chikitsa improves Dhatu nourishment and delays tissue degeneration to preventing MSDs. Herbs such as Ashwagandha, Shatavari, and Amalaki function as adaptogens and immunomodulators, improve the overall musculoskeletal resilience. Furthermore, Sadvritta and Achara Rasayana promote mental discipline, ethical conduct, and stress management, emphasize the psychosomatic aspects of musculoskeletal health.

As a result, integrating Sadvritta and Achara Rasayana into daily life is a therapeutic and preventive approach to preserving musculoskeletal longevity, strength, and flexibility. Therefore, Ayurveda's multidimensional approach which covers physical, dietary, seasonal, and mental well-being, is an effective preventive method for MSDs.

CONCLUSION

Ayurveda provides an integrative and preventive measures for addressing musculoskeletal disorders that focuses on maintaining Vata Dosha equilibrium. Individuals can efficiently improve musculoskeletal strength, flexibility, and endurance by following preventive measures like balanced diet, lifestyle, yoga & pranayama as Dinacharya, Ritucharya, Pathya- Apathya, curative measures like Shamana, panchakarma therapies Shodhana, and Rasayana Chikitsa principles while preventing degeneration and impairment. Unlike modern medicine, which focuses on symptomatic care, Ayurveda emphasizes the preservation of Dhatu Samya and the rejuvenation of body and mind. Integration with Modern medicine often beneficial to integrate Ayurvedic approaches with conventional medical care for comprehensive management. Regular implementation of Ayurvedic preventive measures can significantly reduce the global burden of MSDs and improve quality of life.

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