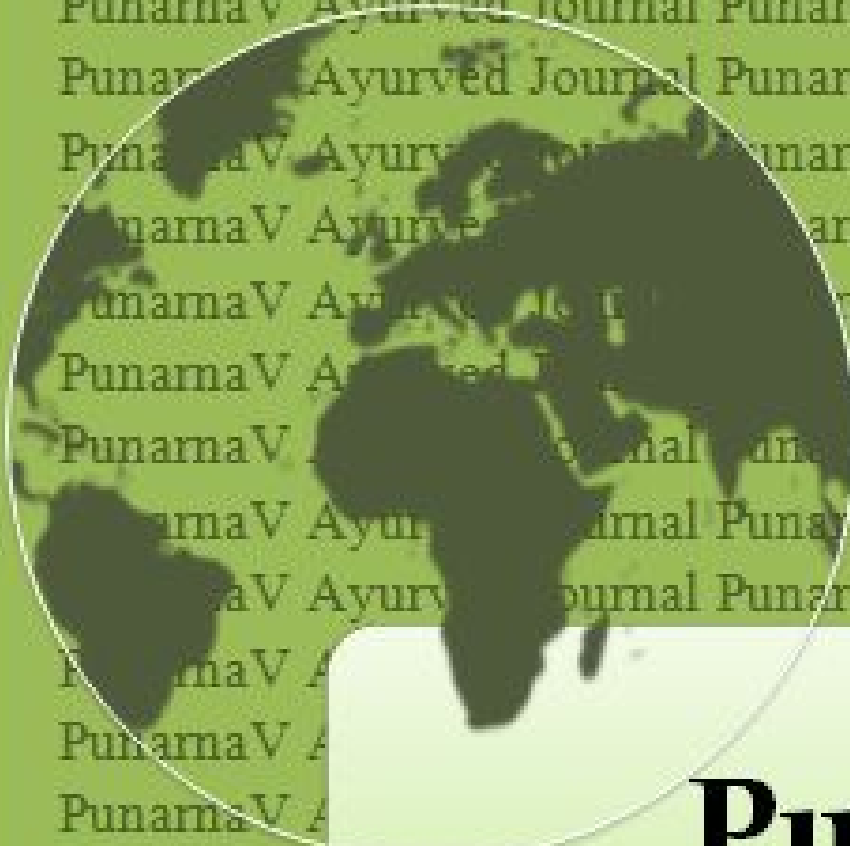


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TITLE

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KUNJ BIHARI SAINI¹ SANDEEP MADHUKAR LAHANGE² VIKASH BHATNAGAR³

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MANAGEMENT OF *AYURVEDA* IN MUSCULOSKELETAL AILMENTS OF
JANU SANDHI (KNEE JOINT) W.S.R. TO SPORTS INJURIES

KUNJ BIHARI SAINI¹ SANDEEP MADHUKAR LAHANGE² VIKASH
BHATNAGAR³

¹ P. G. SCHOLARS, ^{2,3} ASSISTANT PROFESSOR, DEPARTMENT OF SHARIR
RACHANA, NATIONAL INSTITUTE OF AYURVEDA, JAIPUR,
RAJASTHAN, INDIA.

ABSTRACT:

The musculoskeletal system is also known as the locomotors system, Locomotion is nothing but Movement which will be facilitated through Muscles and Skeleton (bones and joints). The musculoskeletal system provides support, stability and helps in movement of the body. It is made up of the bones of the skeleton, muscles, cartilage, tendons, ligaments, joints and other connective tissues that act together. Knee is one of the most important joints of our body. It plays an essential role in movements related to bear body weight in horizontal (running and walking) and vertical (jumps) directions. Knee joint is a complex structure and one of the most stressful joint in the body. It is the largest joint, vital for movement, and vulnerable to injury. It contains number of muscles, ligaments, tendons and bones. In Ayurveda knee joint is mentioned as site of Marma which is meeting point of Mamsa, Asthi, Sandhi, Sira and Snayu. Knee joint is involving in various outdoor sports. Which causes numerous types of injuries such as fracture, dislocation, sprains and ligament tears? In Ayurveda there are many therapies which are safe, cost effective and well known like Snehana, Swedana and Janu basti, for the prevention and management of knee joint injuries.

KEY WORDS: Janu basti, Knee joint, Marma, Muskuloskeletal, Snehan,
Swedan

INTRODUCTION

CORRESPONDENT:
DR. KUNJ BIHARI SAINI
MD SCHOLAR
DEPARTMENT OF
SHARIR RACHANA,
NATIONAL INSTITUTE OF
AYURVEDA, JAIPUR,
RAJASTHAN, INDIA

Musculoskeletal system is also called as Locomotors system, which indicates motion (movement) carried out by muscles and skeleton (bones and joints), although bones provide leverage and form the framework of the body, they cannot move body parts by themselves¹. Motion results from alternate contraction and relaxation of muscles. It contains the bones, muscles, cartilage, tendons, ligaments, joints and other connective tissue that supports and binds the joint and relevant structures together.

In *Ayurveda* Knee joint is mentioned as *Janu Sandhi* which is mentioned as example of *Kora Sandhi* while narrating *Marma* the site of *JanuMarma* is mentioned as *Janusandhi*. According to WHO statistical data among sports injuries the most prone joint is knee joint around 65% and based on “Standard nomenclature of athletic injuries” prevalence rate of knee injuries is of 793.7 % among 10000 this

highlights a major problem in current research literature on Athlete injury cases².

Ayurvedic Review

In literature of *Ayurveda Acharya Sushrutha* had explained *Sandhi* as a site where there will be conjunction of bones and classified it into 8 types such as *Kora, Ulukhula, Samudhga, Pratara, Tunasevani, Vayustund, Mandala, Shankavartha* then while narrating the examples for *Kora Sandhi* as *Anguli, Manibandha, Janu, Gulpha, Kurpura* among which *Janu Sandhi* can be correlated to Knee Joint. The word meaning of *Janu* is given as convene point of *Janga* and *Uru*³. *Janu Sandhi* (Knee joint) is mentioned as site of *Marma* which is meeting point of *Mamsa, Asthi, Sandhi, Sira and Snayu*. Any sort of injury to this site will lead to severe symptoms like *Khanjata* (difficulty while walking)⁴.

Modern Review

Knee joint is considered as Compound (largest) Joint and most superficial joint, primarily it is a Hinge type of Synovial Joint allowing Flexion and Extension which is responsible for daily activities such as standing, walking, scrambling up⁵. The knee joint must be mobile, however; this mobility makes it susceptible to injuries in contact and noncontact sports. The most common knee injuries in contact

sports are ligaments sprain. Knee injuries can range from mild to severe because of

its complex structure and weight bearing capacity.

MUSCULOSKELETAL ELEMENTS OF KNEE JOINT:

Knee joint is a hinge type synovial joint allowing flexion and extensor however the hinge movement is combined with gliding and rolling with rotation about a vertical axis⁶.

The muscles of the knee include the quadriceps, hamstring, and muscles of calf. These muscles work in groups to flex, extend and stabilize the knee joint. Some other muscles that assist with the



Articular surfaces

The knee joint is formed by lateral and medial condyle of femur, lateral and medial condyle of tibia and patella⁷.

Fibrous capsule

Fibrous capsule is very thin and is deficient inferiorly where it is replaced by the quadriceps femoris, the patella and ligamentum patellae⁸.

Muscles

movements of the knee include the tensor fasciae latae, popliteus and the articularis genu muscles.

Ligaments

Extra capsular ligaments

the fibrous capsule is strengthened by five extra capsular ligaments⁹.

1. Patellar ligament
2. Fibular collateral
3. Tibial collateral
4. Oblique popliteal ligament
5. Arcuate popliteal ligament

Intra capsular ligament

1. Cruciate ligament (anterior, posterior)
2. Menisci (medial, lateral)
3. Transverse ligaments

Bursa

Numerous bursas surround the knee joint. The largest communication bursa is

suprapatellar bursa¹⁰. Four considerably smaller bursa are located on the back of the knee. Two non-communication bursa are located in front of the patella and below the patellar tendons. These bursa play important role in minimizing the force and friction while any physical activity or during sports.

SPORTS INJURIES IN KNEE JOINT

1. Sprain

1. Medial and lateral collateral ligament,
2. Anterior and posterior cruciate ligament¹¹

2. Tear of meniscus-

Medial and lateral menisci may get tear.

3. Strain-

1. Quadriceps muscles

2. Hamstring muscles

3. Patellar tendon

4. Popliteal tendon

4. Inflammation -

Bursitis -Prepatellar bursitis, Infrapatellar bursitis

Tendinitis

1. Patellar tendinitis
2. Hamstring tendinitis
3. Popliteal tendinitis



SYNDROMES

1. Patellofemoral pain (severe to mild discomfort seemingly originating from the contact of the posterior surface of the patella with the femur)
2. Plica syndrome- when plica (an extension of the protective synovial capsule of the knee) becomes irritated, enlarged, or inflamed.
3. Iliotibial band syndrome (the continual rubbing of the band over the lateral femoral epicondyle resulting the area to become inflamed)

4. Hoffa's syndrome (sometimes after a forceful direct impact to the kneecap, the fat pad can become impinged between the distal thigh bone and the kneecap)

Fracture-

Tibia, femoral, patellar fracture

5. Dislocation

1. Patellar dislocation
2. Tibio
3. Femoral¹².

MANAGEMENT OF *AYURVEDA* IN KNEE JOINT INJURIES



Ayurveda is an intricate system of healing that originated in India thousands of years ago. The specialty of this science is that it

deals not only with the cure of disease but also with the maintenance of physical, mental and social health of an individual and society as a whole. *Ayurvedic* treatment procedures like *Panchkarma* (purificatory & rejuventory) can do wonderful impact in sports medicine.

Recently research studies proved that *Ayurvedic* medicine and treatment are very effective in sports, health& fitness related fields such as aerobic training, strength training, bodybuilding, endurance sports, games like football, volley ball,

basketball, cricket and tennis etc. A combined approach of *Ayurveda*, physiotherapy and yoga 'can be in

successfully employed sports, for training sports person, treating injuries and rehabilitation.

Acharya Charaka says about *Abhyanga* "a man constantly doing *abhyanga* possess limbs which are smooth to touch and which are well developed and he will not be affected by with external injuries, certain drugs like *Ashwagandha*, *Tulsi*, *Turmeric*, *Guggulu*, *Aloevera* etc. Can be used to enhance the effect of performance. These herbs can boost immune mechanism

TREATMENT OF KNEE INJURIES

1. Swelling of knee

Gairik +Kata- Gum water *Mahayograj guggul*

2. Synovitis

Tulsi patra taila, dhaturapatra swarasa

3. Other treatments

Snehana- *Vatashamak taila* like- *Til Taila, Mahanarayan Taila,*

Swedana

Vatashamak Kwatha like- *Maharasnadi Kadha, Dashmoola Kwatha.*

Nadi sweda

Vatashamak dravya like- *Nirgudi patra, Errand patra, Vasa patra etc.,*

Pinda sweda-Shashtishali.

Patra pottali sweda

Pottali of Vatashamak dravya like- *Rasna patra, Nirgundipatra Errand patra etc.*

Raktmokshan

Raktmokshan can do in the conditions of local inflammation, irritation, pain, stiffness of knee joint.

Application of *Jalouka, Siravedh* can be done to reduce edema, pain, and stiffness

Agnikarma

Agnikarma can be done locally at knee joint in the conditions like, pain, stiffness etc.

Janu basti

Janu basti is very useful in the conditions like, osteoporosis, pain, swelling etc.

Lepa

Local application of various types of *Lepa* can be play important role in the conditions like, stiffness, pain, swelling etc. *Dashanga Lepa, Argwadpatradi Lepa, Shothahar Lepa* etc. are the usefull

Aushadhi yoga

There are so many *Aushadhi yoga* .which are very beneficial for sports injuries of

knee joint like-

Guggul Kalpa

Sinhnad Guggul, Yogaraj Guggul , Kaishor Guggul, Abha Guggul.

Kwatha & Kashaya

Dashmool Kwatha, Kanchanara Kashaya, Maharasnadi Kashay etc.

Rasa Kalpa

Shankha Bhasma, Kukkundatwaka Bhasma, Punarnava Mandoor, Saptamrit Loha , Brihatvatachintamani Rasa ,Ekangaveer Rasa, Rasraj Rasa etc.

Ghrita

Panchatikta Ghrita, Aswagandha Ghrita, Panchatikta Ghrita etc

Vati

Asthiposhak Vati, Maharasnadi Ghanavati, Punarwashtak Ghanavati .

Taila

Til Taila, Mahanarayan Taila, Vishgarbha Taila, Mahamash Tail, Panchaguna Tail etc.

Yoga

Vajrasana, Swastikasana, Padmasan, Tadasana etc. are useful asana to give strength

And fast recovery in the knee joint injuries.

Rasayana therapy

Rasayana is the strongest part of *Ayurvedic* management for any diseases condition. In

knee joint *Rasayana* play important role in maintaining the proper anatomy, stability, strength, mobility of the knee joint.

Herbal drugs like

Shatavari Ashwagandha, Asthishrinkhala, Methi, Chyavanprasha, Ashwagandha Paka, Brahmrasayana etc. are some health tonic which also useful in knee joint injuries for quick and enhanced recovery.

DISCUSSION & CONCLUSION

- The musculoskeletal system of knee joint comprises a number of specialized connective tissue, including bone, cartilage, muscle, ligament and tendon. Whose major functions are to provide rigid support for the body, protect organs and other tissue and to generate and enable controlled movement. It is a target site of variety of different injuries and disorders during sports, because of its complex structure and weight bearing capacity, It is frequently affected in sports compared to other joints of the body.
- The serious injuries involve the injury to the capsule of the joint, collateral ligament, menisci, patella, and dislocation of the joint.
- In *Ayurveda* there is no direct explanation regarding sports injuries and its management but in present scenario it is demand of time that *Ayurveda* shows importance of his science in the field of sports. Pain, swelling, stiffness, irritation, fracture etc. are the main complaints in knee joint injuries
- In *Ayurveda* there are so many herbal drugs, *Aushadhi yoga, Lepa, GuggulaKalpa, Ghrita, Rasakalpa and Panchakarma Procedures* like (*Snehana, Swedana, Janubasti, Raktamokshana* etc.) Which play important role in the management of the sports injuries
- *Rasayana* and *Yoga* may also play significant responsibility in maintaining the proper anatomy, stability, strength, mobility and elasticity of the knee joint.

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