INTRODUCTION

In Greek *arthro* means joint and *itis* means inflammation (arthritis). Arthritis is a chronic disease which usually affects middle aged persons, and is seen more in women than in men. In this disease, the synovial membrane or the covering tissue [tendons, ligaments or cartilage] of the joints gets swollen, resulting in stiffness, pain and limitation of movement. In severe conditions, the joints may ultimately become deformed. A disturbed immune function is believed to be responsible for this disease. [Bansal R. et.al, 2009]

Arthritis is a complex disorder that comprises more than 100 distinct conditions and can affect people at any stage of life. Two of the most common forms are osteoarthritis and rheumatoid arthritis. They have very different causes, risk factors, and effects on the body, yet they often share a common symptom—persistent joint pain. The most common form of arthritis, *osteoarthritis* (degenerative joint disease) is a result of trauma to the joint, infection of the joint, or age. Other arthritis forms are *rheumatoid arthritis* and *psoriatic arthritis*, autoimmune diseases in which the body attacks itself. *Septic arthritis* is caused by joint infection. *Gouty arthritis* is caused by deposition of uric acid crystals in the joint, causing inflammation. There is also an uncommon form of gout caused by the formation of rhomboid crystals of calcium pyrophosphate is *pseudogout*. [Tortora G., et. Al. 2010, Dr. Rajpal B., et al. 2009]

The common medications used to treat arthritis.

- Ibuprofen [a non steroidal anti-inflammatory drug or NSAID, COX-2 inhibitor]
- Prednisolone [steroidal anti inflammatory agent],
- Indomethacin [NSAID, COX-2 inhibitor]
- Methotrexate [alkylating agents],
- Glucosamine Sulphate [Compound of Connective tissue, specific for Osteoarthritis]

In recent times, an interest in natural remedies, including Ayurveda, has been reawakened. A recent survey; 6 of 394 Indian patients suffering from chronic rheumatic disorders reported that almost 68% of patients sought relief from alternative systems (with the Ayurvedic system being the most popular) for the major duration of their illness. In
half of this group, Ayurveda was co prescribed with modern medicines, and only 32\% of patients adhered to pure allopathy.

**Arthritis according to Ayurveda**

In ayurveda there are basic three types of musculoskeletal joint diseases (*vataja*) described namely; *amavata*, *sandhivata* and *vatarakta*, that are characterized by pain, swelling of the joints. In modern medicine, the diseases closely resembling *amavata*, *sandhivata* and *vatarakta* are rheumatoid arthritis (RA), osteoarthritis (OA) and gouty arthritis respectively. [Mishra L. C., (2003)]

**Plants with reported anti arthritic and anti inflammatory profile;**


<table>
<thead>
<tr>
<th>Plant</th>
<th>Ayurvedic Name</th>
<th>Modern Name</th>
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<tbody>
<tr>
<td>Ashwagandha</td>
<td>Withania somnifera</td>
<td>Ativish - Aconitum chasmanthum</td>
</tr>
<tr>
<td>Bala</td>
<td>Sida cordifolia</td>
<td>Eranda - Ricinus communis</td>
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<tr>
<td>Haldi</td>
<td>Curcuma longa</td>
<td>Harde - Terminalia chebula</td>
</tr>
<tr>
<td>Guggul</td>
<td>Commiphora weightii</td>
<td>Methi - Trigonellafoenum gaecum</td>
</tr>
<tr>
<td>Pipli</td>
<td>Piper longum &amp; Piper nigrum</td>
<td>Punarnava - Boerhaavia diffusa</td>
</tr>
<tr>
<td>Rasona</td>
<td>Allium sativum</td>
<td>Salaki guggul – Boswellia serrits</td>
</tr>
<tr>
<td>Sunthi</td>
<td>Zingiber officinalis</td>
<td>Surinjan - Colchicum leutium</td>
</tr>
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**Ayurvedic formulations with anti-arthritic activity** [API(2007)]

- Yograj guggul
- Maha yograj guggul
- Simhnad guggul
- Punarnava guggul
- Rasnadi guggul
- Rasonarasonadi vati
- Kshir bala taila
- Godanti bhasma
- Dashmoolarista

**Selected Ayurvedic anti-arthritic formulations for study**

**Kshir bala Taila and Simh nad Guggul** [AFI(2006), API(2007)]

- **Tailas** are preparations in which oil is boiled with prescribed liquid media (*Svarasa*-juice or *Kasaya*-aqueous extract) and *kalka* – fine paste of powdered drug) according to formulation composition.

- **Kshir bala taila** is an oil preparation made up of
  - Bala *kasaya* (*Sida cordifolia* root aq. extract– 16 parts),
  - Bala *Kalka* (*Sida cordifolia* root aqueous paste- 1 part),
  - Ksira (Godugdha- cow’s milk – 4 parts),
Tila taila (*Sesamum indicum* oil – 4 parts) and Jala – water for decoction.

- **Guggulu** is an exudates obtained from the plant *commiphora mukul*. Preparations having exudates as main effective ingredient are known as guggulu. The preparation is formulated as a vati (pills).

- **Simhnad guggul** is a vati preparation made up of
  - Haritaki (*Terminalia chebula*–48 parts),
  - Bibhitaka *Terminalia belerica* – 48 parts,
  - Amalaki (*Embelica officinalis* – 48 parts),
  - Shuddh Gandhak (Purified raw Sulphur – 48 parts),
  - Shuddha Guggulu (*Commiphora wightii* exudates – 48 parts),
  - Eranda taila (*Ricinus communis* oil – 30 parts),
  - Water for heating.