

Effect of Yoga Sana in Management of Low Back Pain

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ABSTRACT

Back pain, one of the most prevalent conditions afflicting Indian adults, is the leading reason for using complementary and alternative medicine (CAM) therapies. It has been observed in recent studies that Prolonged poor posture and a sedentary lifestyle often cause chronic Low back pain. Yoga is an increasingly popular "mind-body" therapy often used for relieving back pain and several small studies have found yoga effective for this condition. The comprehensive Yoga module combining eight limbs of Patanjali can be utilized for management and prevention of multifactorial musculo-skeletal diseases and low back pain. The attempt has been made to put forth the techniques and their effects for management of Low back Pain.

KEYWORDS: Yoga, Back pain, Asana.

INTRODUCTION

Low back pain (LBP) is experienced by approximately two-thirds of adults in their lifetime. LBP is one of the main reasons individuals seeking their physician and LBP resulting in lost time from work. Most people who experience activity-limiting low back pain go on to have recurrent episodes. Estimates of recurrence at 1 year range from 24% to 80%. Multiple individual and environmental factors affect low back pain on onset and on course. Studies have found the occurrence of low back pain to be the maximum in the third decade, and average prevalence rises with age until the age group is 60–65 years and then decreases slowly. The usual treatment for low back pain is self-care and non-prescription medication such as paracetamol (acetaminophen) or non-steroidal anti-inflammatory drugs along with recommend exercise and some manual therapies.

Prevalence of LBP

The prevalence of chronic LBP (cLBP) is on the rise, with reported cases near about 42%. The age group most affected by LBP is between 30 and 50 years.¹ According to Andersson², there is a 15% to 30% point prevalence of LBP in adults with the prevalence increasing with age until 65 years. Men and women are affected equally and the cause can usually be traced to a work-related disability in adults under 45 years old. The prevalence of LBP typically declines with increasing income and level of education. LBP had the lowest prevalence among Asian Americans and was highest in American Indians and Alaska Natives, according to the 2002 National Health Interview Survey.

Causes of LBP

Prolonged poor posture and a sedentary lifestyle often cause chronic pain.

Some examples of mechanical causes of low back pain include:

Congenital

- **Skeletal irregularities** such as scoliosis (a curvature of the spine), lordosis (an abnormally exaggerated arch in the lower back), kyphosis (excessive outward arch of the spine), and other congenital anomalies of the spine.
- **Spina bifida** which involves the incomplete development of the spinal cord and/or its protective covering and can cause problems involving malformation of vertebrae and abnormal sensations and even paralysis.

Injuries

- Sprains (overstretched or torn ligaments), strains (tears in tendons or muscle), and spasms (sudden contraction of a muscle or group of muscles)
- **Traumatic Injury** such as from playing sports, car accidents, or a fall that can injure tendons, ligaments, or muscle causing the pain, as well as compress the spine and cause discs to rupture or herniate.

Degenerative problems

- **Intervertebral disc degeneration** which occurs when the usually rubbery discs wear down as a normal process of aging and lose their cushioning ability.
- **Spondylosis** the general degeneration of the spine associated with normal wear and tear that occurs in the joints, discs, and bones of the spine as people get older.
- **Arthritis or other inflammatory disease** in the spine, including osteoarthritis and rheumatoid arthritis as well as spondylitis, an inflammation of the vertebrae.

Nerve and spinal cord problems

- **Spinal nerve compression, inflammation and/or injury**
- **Sciatica** (also called radiculopathy), caused by something pressing on the sciatic nerve that travels through the buttocks and extends down the back of the leg.
- **Spinal stenosis**, the narrowing of the spinal column that puts pressure on the spinal cord and nerves
- **Spondylolisthesis**, which happens when a vertebra of the lower spine slips out of place, pinching the nerves exiting the spinal column
- **Herniated or ruptured discs** can occur when the intervertebral discs become compressed and bulge outward
- **Infections** involving the vertebrae, a condition called osteomyelitis; the intervertebral discs, called discitis; or the sacroiliac joints connecting the lower spine to the pelvis, called sacroiliitis.

Risk factors for LBP

Factors that can increase the risk for low back pain include low levels of literacy, tension, anxiety, depression, lack of job satisfaction, and low rates of workplace welfare protection. Being overweight, obese, or quickly gaining significant amounts of weight can put stress on the back and lead to low back pain. A job that involves heavy lifting, pushing, or pulling, particularly when twisting or vibrating the spine, can result in injury and back pain. All-day work at a desk may lead to discomfort, especially from poor posture or sitting in a chair with inadequate back support.

Psychosocial stress and LBP

There is growing consensus that psychosocial factors play a role in the development of CLBP. Many potential risk factors that include lifestyle, physical, psychosocial (both work-related and non-work-related) factors have been studied. These factors have been linked to low back pain, starting from psychological and psychosocial factors at work and private life. A major issue in pain rehabilitation programs for chronic low back pain (CLBP) is the suggested relation between psychological factors and disability. This relationship is stressed in dominant models such as the bio-psychosocial model (Truchon, 2001) and the fear avoidance model (Vlaeyen - a, et al 1995; Vlaeyen -b, 1995). According to the biopsychosocial model, a patient's functioning is influenced by biological, psychological and social factors. Psychological factors such as distress (depression, anxiety, and fear), self-efficacy, fear-avoidance beliefs, coping styles and cognitive factors generally are presumed to have more impact on back pain disability than biomedical or biomechanical factors (Hazard et al, 1996; Linton, 2000).

3.6 Depression and anxiety in CLBP

The most important psychological disturbance in CLBP

Along with the increase in prevalence of LBP, medical costs and workers' compensation lead to the most costly work-related disability. It usually takes around two months for an individual to return back to work when they take a sick leave due to their LBP. LBP leads to missed work, less productive workers, and rising healthcare costs in the billions of dollars.

Classifications of LBP

Approximately 90% of individuals will experience non-specific LBP which may be classified as acute, sub-acute or chronic. Each described as pain which has endured less than six weeks, six weeks to three months, and over three months, respectively. It is believed there are fluctuations of recurrences of LBP especially in individuals with chronic LBP.

CAM treatments for LBP

Need for CAM The modern medical system has replaced almost all the traditional systems of medicine in different parts of this globe because of its rational basis. It has proved itself most effective in saving man from the fatal hands of contagious and infectious diseases. However, rapidly increasing incidence of stress related ailments is posing a great challenge to the modern medical system. This has led to research in non-pharmacological therapies including yoga. It is here that CAM research appears to make a vital contribution to the modern medical system. A survey reported 38.4% of LBP patients use CAM therapy as a treatment method (Fleming et al, 2007), including massage therapy, chiropractic treatment, acupuncture, yoga, herbs, and supplements. Acupuncture treatment for LBP showed significant reduction in pain (Brinkhaus, et al., 2006). However, regular exercise 3-4 times per week or more would be most effective in reducing the incidence and duration of low back pain (Kwon et al, 2006). Psychological interventions had positive effect on LBP (Hoffman et al 2007).

Yogic concept of CLBP as a mind-body disease

According to yoga, the causes of back pain (Nagarathna & Nagendra 2001) can be classified as ādhija or anādhija, i.e., functional or organic. The anādhija (organic) causes include trauma, toxins, nutritional deficiencies and infections which contribute to only a small percentage of the cases of chronic back pain. The Ādhija (functional) causes begin as an internal imbalance caused by disturbances at the mind level.. Today, we are recognizing how majority of the chronic cases of low back pain that are on the increase are traceable to non-specific causes related to modern lifestyle and the psyche. Thus mechanical back pain can be classified under ādhija Vyādhis according to this classification by the yogic scriptures. To understand how these stresses that begin at the mind level, settle down in the body, we need to know the concept of five aspects of our body (Paīca kośa Viveka) and the definition of stress according to yoga. In the tradition of Yoga and upaniṣads (most ancient Indian scriptures that cannot be dated), this concept of Paīca kośa (the five aspects of our body) is described in the text called Taittirīya Upaniṣad

Yoga Styles

There are eight parts of yoga which the majority of styles are based on

- Yamas (moral restraints),
- Niyamas (moral observations),
- Asana (posture),
- Pranayama (controlled breathing),
- Pratyahara (sensory withdrawal)
- Dharana (concentration),
- Dhyana (meditation) and
- Samadhi (self-actualization).

COMPHRHENSIVE YOGA THERAPY FOR LOW BACK PAIN

JOINT LOSENING EXERCISES

It will include neck shoulder and trunk movements.

ASANAS FOR LOW BACK PAIN

Bridge Pose – Setubandhasana

Bridge Pose gives a stretch to the spine and neck and opens the chest. It is a very beneficial pose to relieve anxiety, stress, fatigue and back pain.

Classical Cobra Pose – Bhujangasana

Classical Cobra Pose strengthens the back muscles and stimulates the abdominal organs. Lower back pain is often due to lack of back strength.

Half Spinal Twist – Ardha Matsyendra Asana

Half Spinal Twist gives a gentle twist and stretch to the spine and therefore relieves lower back pain and neck pain.

Supta Matsyendrasana- Supine Twist

Supta Matsyendrasana (Supine Twist) is a fantastic stretch for the lower back, especially if it is tight. It is great for sciatic pain, and also hydrates the spinal discs and realigns the spine. Supine Twist can be modified by putting a blanket or pillow under your knees

Adho Mukha Svanasana- downward-facing dog pose

Adho Mukha Svanasana stretches the hamstrings and calves. Tight hamstrings can sometimes be a factor in lower back pain, so stretching them can help relieve it. It also helps with spine alignment and posture.

Salabhasana- locust pose

Salabhasana (locust pose) strengthens the back muscles and the legs. It is especially good for middle back pain as it helps to develop strength and flexibility.

Marjaryasana and Bitilasana

Although it is two poses *Marjaryasana* and *Bitilasana* (cat and cow pose) are usually combined and done together. *Bitilasana* is done on the inhale and *Marjaryasana* on the exhale. This brings mobility to the spine, as well as flexibility from the sacrum all the way to the top of the cervical spine. It is excellent for overall back pain, though particularly good for middle back pain.

PRANAYAM

Nadishodhan this is an alternate nostril breathing, once inhalation is done through Left and exhalation through Right then inhalation through Right and exhalation through Left Nostril. It helps to balance the physical and mental energy, releases stress, anxiety and also treat serious health conditions, which include heart problems, cartilage, depression, asthma, high blood pressure, and arthritis

Bhramari breathing exercises to release the mind from all the agitation along with frustration or anxiety as well as getting rid of anger. In this particular pranayama, the humming sound is created which is why the name Bhramari. The most evident effect of this pranayama is that it relaxes the brain.

Suryabhedhan Surya Bheda is a breathing exercise to strengthen solar energy. On this inhaling the breath through the right hole, the energy flows through the Pingala Nadi ie Surya Nadi. In exhaling from the left pore, energy flows through the Ida pulse or the lunar pulse. The practice of Surya Bhedana Pranayama stimulates the root chakra, increases the vitality of the body as well as relief from anxiety, depression, and mental illness.

RELAXATION

Yoga Nidra is an immensely powerful relaxation technique in which the practitioner rests comfortably in *savasana* (corpse pose), this systematic meditation takes the person through the *pancha maya kosha* (five layers of self), with a sense of wholeness. This technique is conducive to deep emotional and physical healing, rewiring your brain, and self-exploration. It promotes deep rest and relaxation .

MEDITATION

OM CHANTIING

Om is considered to be one of the most important sounds in all the universe and has been chanted for thousands of years. While chanting OM mantra focuss the attention on the breathing. This has many benefits clearing the negative energy in our body and mind. The vibrations of the OM chants has a very profound effect on our bodies almost immediately improving our concentration and focus.

Conclusion

The practice of comprehensive yoga module in form of all eight aspects can bring the protocol for better management of all non-communicable diseases especially musculoskeletal diseases as low back ache. The aetiology of low back pain is multifactorial hence yoga therapy as mind body medicine can be used to combat the loss of work capacity and degrading quality of life of patients of low back pain.

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