



Yoga- An Alternative Training for Postmenopausal Women with Osteoporosis

KEYWORDS

Osteoporosis, yoga, post menopause, BMD.

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ABSTRACT Osteoporosis is a musculoskeletal condition, leading to an increased risk of fractures, characterized by low bone mass and micro architectural deterioration of bone tissue. As an ancient Indian discipline of the body, mind, and spirit, dating back to at least 2000 BC, yoga is gaining increasing popularity in Western industrialized countries as a means of alleviating stress and improving balance, flexibility, and muscle strength. The efficacy of yoga in the rehabilitation of postmenopausal osteoporosis has been showed in several studies. The maintaining of emotional stability, improvement in posture, balance, and coordination and increasing in body flexibility are major effects of yoga in postmenopausal osteoporosis. Practicing yoga as the primary source of exercise may provide enough support for increasing BMD, or improving balance and strength.

Introduction:

The word yoga means to join, to unite. It takes effect on the entire human being on several levels - from the physical to the mental as well as psychic level. It originates in ancient India few thousand years ago, and the original knowledge has been preserved until today. According to yoga theory, the human being has some typical trouble at the physical, emotional and mental planes which are interconnected. Such troubles are for instance weakness, rigidity and restlessness. These can be overcome by yoga. We are able to conquer the weakness of our personality. We can eliminate physical, emotional and mental rigidity. We can overcome restlessness present on all personal levels. By practicing yoga we strengthen ourselves. Our personality becomes more "flexible", balanced and calm. The complexity of thinking and comprehending the structure of the human being distinguish yoga from other physical activity (e.g. sports, recreation etc.).

Osteoporosis is a musculoskeletal condition, leading to an increased risk of fractures, characterized by low bone mass and micro architectural deterioration of bone tissue [1]. Yoga exercises, which have been an integral part of Eastern culture, have been reported to be beneficial in osteoporosis rehabilitation in some trials [2-4]. As an ancient Indian discipline of the body, mind, and spirit, dating back to at least 2000 BC, yoga is gaining increasing popularity in Western industrialized countries as a means of alleviating stress and improving balance, flexibility, and muscle strength [5,6]. To learn yoga is simple and can be practiced even by very elderly, ill, or disabled persons [7]. Yoga may offer an especially promising and cost effective means of reducing impairment associated with gait problems in the elderly, requiring little equipment and personnel to sustain. The Indian yoga exercises are routinely used to manage joint contractures caused by poliomyelitis and other disorders [8,9]. Yoga programs have also been shown to improve balance and coordination in elderly patients with stroke, and to improve grip strength, reduce pain, and balance and gait properties in women with musculoskeletal problems and osteoporosis [10,11]. A number of studies suggests that yoga-based interventions are readily accepted by older adults, and in elderly populations may improve a range of health outcomes [12]. The effects of yoga in postmenopausal osteoporosis is maintaining emotional stability, increasing body flexibility, and improving posture, balance, and coordination. The concern with quality of life, physical and functional decline associated to aging is a constant in the population and a universal process.

Yoga and Bones:

There are many aspects of yoga. One of those aspects is the physical postures, also called "asanas". It is through the yoga asanas that bone is able to be renewed and repaired as nature intended. Most Western exercise is contractive in nature. This means that it is designed to tighten, shorten, and harden the body. A muscle that is only taught how to contract will ultimately lead to short and contracted muscles. As the muscles continue to contract the surrounding fascia will shorten, harden, and dry out as well. As we have seen, this means death to the bones. Yoga is different. Yoga is a system that is designed to be expansive in nature. The body is taught how to lengthen and expand with each and every practice. Muscles will lengthen through the joints and the surrounding fascia will also take on a longer shape. With yoga the body is transformed into a longer and more spacious creation, rather than a stiff and hard body, as exemplified by most Western exercise.

Yoga is also important as a way to improve balance. Most people who break bones do so because their balance is impaired. They might slip and fall, breaking a wrist or a hip. Yoga helps to improve balance so the chances of falling are minimized. Most people never practice balancing in their lives. Yoga begins to change that. Yoga has many other positive health benefits. Balance to the organs and glands are often seen with a dedicated yoga practice. Many people who fall and break bones do so because they are heavily medicated by drugs to treat symptoms of other diseases. These drugs often create a "foggy" or unfocused state in people. Yoga often begins to allow people to remove themselves from these mind-altering drugs, not only allowing them to become balanced and focused, but beginning to help heal these other disorders. At a deeper level, yoga practice has been shown to have various effects on the nervous and hormonal systems. Yoga has been shown to induce the relaxation response, the reversal of stress. A yoga class of just 30 minutes has been shown to reduce the stress hormone cortisol. Research indicates that chronic levels of cortisol due to stress, can contribute to bone loss. In a recent Canada-wide bone-health study, Dr. Jerilynn Prior and colleagues asked novel questions about happiness and worry and their relationship to bone health. To the surprise of some, they found that the negative feelings of unhappiness and worry were more highly associated with bone fractures than factors like low-calcium intake, lack of exercise, and smoking. Regular yoga may help better manage stress, and so in this way aid bone health. Another little known area is whether yoga has an effect on other hormones, such as estrogen (the bone hormone in women), and whether this

can be influenced by yoga practice.

The following yogasana can be practiced to improve bone health:

1. TADASANA (Mountain Pose) with different arm positions
2. UTTANASANA (Standing Forward Bend)
3. ADHO MUKHA SVANASANA (Downward-Facing Dog Pose)
4. VIRABHADRASANA I (Warrior I Pose)
5. VIRABHADRASANA II (Warrior II Pose)
6. UTTHITA TRIKONASANA (Extended Triangle Pose)
7. PARIVRTTA TRIKONASANA (Revolved Triangle Pose)
8. UTTHITA MARICHYASANA (Standing Spinal Twist Pose)
9. USTRASANA (Camel Pose)
10. URDHVA DHANURASANA (Upward-Facing Bow Pose)*
11. BALASANA (Pose of the Child)
12. VIPARITA KARNI (Legs-Up-The-Wall Pose)*
13. SAVASANA (Final Relaxation or Corpse Pose)

*CAUTION: this pose can be done only if it is already part of patients' Yoga practice. This pose cannot be done if they have a migraine or tension headache, or suffer from heart trouble or suffering from hypertension or any serious illness.

Osteoporotic fractures are among the most important cause of disability and mortality in postmenopausal women. Although, osteoporosis fractures may occur spontaneously, they usually result from falls. Falling can cause severe psychological problems, even though it may not result in a fracture. The fear of falling may decrease mobilization of the patients and limit their physical and social life. This has a negative effect on quality of life. The efficacy of yoga in the rehabilitation of postmenopausal osteoporosis has been showed in several studies. The maintaining of emotional stability, improvement in posture, balance, and coordination and increasing in body flexibility are major effects of yoga in postmenopausal osteoporosis.

Conclusion:

Based on the results, regularly practicing Yoga may have positive effects on bone health of postmenopausal women with osteoporosis. There may, however, be benefits that can occur for balance, specifically when related to ankle and foot strength. A longitudinal study would need to be done in order to confirm any effects yoga has for postmenopausal women. Based on the evidence from this study, practicing yoga as the primary source of exercise may provide enough support for increasing BMD, or improving balance and strength.

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