

FORWARD BENDING ASANAS AND THEIR IMPACT ON BMI AND WHR REDUCTION

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ABSTRACT

Backward bending asanas, also popularly performed in yoga, consist of a number of poses that focus on the flexion of the spine, hamstring stretch, and the deepening of the hip flexors. Asanas are considered to provide an extensive variety of physical and psychological health advantages, especially in increasing flexibility, lessening stress, and enhancing core strength. Current research indicates that the activity of forward bending asanas might also play an important role in body composition, in the decrease of Body Mass Index (BMI) and Waist-to-Hip Ratio (WHR). This paper intends to discuss the possible influence of regular practice of forward bending asanas on the reduction of BMI and WHR. By reviewing current literature and clinical trials, this research investigates the ways in which these asanas affect metabolic activity, fat deposition, and overall body composition. It also addresses the function of forward bending postures in correcting posture, improving digestion, and alleviating stress-related hormonal

disturbances, which may be involved in weight control and fat loss. The results of this study indicate that the inclusion of forward bending asanas in a regular physical practice could be a valuable approach for people who seek to enhance their BMI and WHR, and consequently, support healthier body composition and lower metabolic disorders risk.

KEYWORDS: Asanas, BMI, WHR, Obesity.

INTRODUCTION

Since the Vedic era, keeping the body healthy and long-lasting has been very valued. Having a well-tended body is important for complete well-being since good health is the basis of a happy life. Acharya Charaka termed an individual having a balanced proportion of muscles, a firm and compact body, and robust sense organs as immune to many diseases. These people can withstand hunger, thirst, heat, cold, and fatigue. Their digestion, assimilation of food, and metabolism of muscles are balanced, which benefits their general health and strength.

In the present era, a large number of people are affected by an unhealthy body composition. Overweight and obesity are the common problems faced in contemporary society. Obesity is a chronic illness that is ubiquitous and poses significant risks for the onset of different diseases, such as diabetes mellitus, high blood pressure, cardiovascular diseases, musculoskeletal disorders (most notably osteoarthritis), and some cancers.

According to the World Health Organization (WHO) in 2008, there were over 1.4 billion adults above 20 years who were overweight. Out of this figure, over 200 million men and nearly 300 million women were classified as obese.

In 2008, 35% of adults aged 20 and older were overweight, and 11% were obese. In 2011, more than 40 million children under the age of five were overweight. In total, over one in ten adults worldwide were obese, with women more likely to suffer from obesity than men.

Obesity has reached epidemic proportions, yet the majority of people are still unaware of the factors that contribute to this issue and the consequences it brings.

At least 2.6 million people die each year due to being overweight or obese.

According to the World Health Organization (WHO), overweight and obesity are the fifth leading risk factors for global deaths.

Sthoulya is the unnatural and excessive deposition of Meda Dhatu (fatty tissue). Obesity in contemporary medicine is similar in that it describes an excess of body and visceral fat that is a potential risk to health.

As per *Acharya Charaka*, in the case of excessive fat, the formation of other Dhatus (tissues) is less marked. In the current lifestyle, poor diet and lack of physical activity are the major causes of obesity.

Obesity is a growing concern worldwide, and yoga has been recognized as an effective intervention for weight management. Forward bending asanas improve digestion, enhance metabolism, and stimulate abdominal organs, contributing to BMI and WHR reduction.

AIM

To evaluate the BMI and WHR reduction effect of forward bending and compare in the management of obesity.

METHODS

A randomized controlled trial was conducted on 30 participants. The test group performing forward bending asanas included

- Padahastasana
- Janushirasasana
- Paschimottanasana
- Pawanmuktasana

Each asana was performed for 10-15 seconds per round, with five rounds daily over 90 days.

1. PATAHASTASANA^[1]

Pada means the foot. *Hasta* means the hand. This posture is done by bending forward and standing on one's hands.

Technique

- Stand in Tadasana. Spread the legs a foot apart.
- Exhale, bend forward without bending the legs at the knees, and insert the hands under the feet so that the palms touch the sole.
- Keep the head up and make the back as concave as possible. Do not slacken the grip at the knee and take a few breaths in this position.
- Now exhale and move the head between the knee by bending the elbows and pulling the feet up from the palms.

- Now exhale, and bring the head in between the knees by tightening and pulling the toes without lifting them off the floor. Remain this pose for about 20 seconds. Maintaining normal breath.
- Inhale, stand up and return to *Tadasana*.

Awareness: Physical- On the movement, relaxation of the back muscles or the breath.

Spiritual- On *Swadhishtana chakra*.

Sequence: This *asana* may be practised before or after backward bending asana and may be used as a preliminary to other forward bending poses to encourage maximum flexibility.

Benefits

- This asana massages and tones the digestive organs.
- It alleviates flatulence, constipation and indigestion
- It stimulates and tones all the spinal nerves.
- Inverting the trunk increase the blood flow to the brain and improves circulation to the pituitary and thyroid gland.
- Due to inversion it increases the vitality and improves the metabolism.
- It improves concentration
- It removes the nasal and throat disease.
- It helps to remove excess weight.

Contra-indication: This *asana* should not be practised by people suffering from serious back complaints, sciatica, heart disease, high blood pressure or abdominal hernia.

2. JANU SIRSHASANA (head to knee pose)^[2]

Sit with the legs outstretched and the feet together. Bend the left leg, placing the heel of the foot against the perineum and the sole of the foot against the inside of the right thigh. Keep the left knee on the floor. Place the hands on top of the right knee, keeping the spine straight and the back muscles relaxed. This is the starting position.

Slowly bend forward, sliding the hands down the right leg. and grasp the right foot. If possible, hold the big toe with the index finger, middle finger and thumb of the left hand and the outside edge of the foot with the right hand. Try to touch the knee with the forehead. This

is the final position. Keep the back relaxed and do not strain. Hold the position for as long as is comfortable. Return to the starting position and rest the hands on the knees. Change sides and repeat with the right leg bent and the left leg straight. Practise up to 5 times with each leg.

Breathing: Inhale in the starting position. Exhale while bending forward. Retain the breath outside if holding the final position for a short time. Breathe normally if holding the pose for a longer time. Inhale while returning to the starting position.

Other details: As for *paschimottanasana*.

Benefits: This practice gives basically the same benefits as *paschimottanasana* as well as loosening up the legs in preparation for meditation asanas.

Practice note: Sometimes known as *ardha paschimottanasana*. It may be practised before *paschimottanasana* as a preparatory asana

3. *PASCHIMOTTANASANA* (back stretching pose)^[3]

प्रसार्य पादौ भुवि दण्डरूपौ विन्यस्तभालं चितियुग्ममध्ये ।

यत्नेन पादौ च धृतौ कराभ्यां तत्पश्चिमोत्तानमिहासनं स्यात् ॥

Stretch both legs out, like a staff, on the ground in a natural way and grasp the big toes. Then place the head between the knees. Thus it becomes *paschimottanasana*.

Sit with the legs stretched out in front of the body, feet together and the hands on the knees. This is the starting position.

Straighten the spine, then relax the whole body. Sliding the hands down the legs, slowly bend forward from the hips as far as possible without forcing or jerking. Grasp the big toes with the fingers and thumbs. If this is impossible, hold the ankles, shins or any part of the legs that can be reached comfortably. Keep the feet close to each other. Do not bend the knees.

Hold the position for a few seconds. Relax the back and leg muscles, allowing them to loosen into the stretch. Keeping the legs straight and using the arm muscles, not the back muscles, begin to bend the elbows and gently bring the trunk down towards the legs as far as is gently

table, maintaining a firm grip on the toes, feet of legs. The aim is to eventually touch the forehead to the knees, but do not strain.

Hold the final position for as long as is comfortable and relax the body. Slowly return to the starting position. This is one round.

Breathing: Inhale while straightening the spine in the starting position. Exhale slowly while bending forward. Inhale in the static position. Exhale while bringing the trunk further towards the legs. Inhale while returning to the starting position. Adepts who can hold the full pose comfortably can breathe slowly and deeply in the final position.

Duration: The basic practice can be performed up to five times, staying in the final position for only a short length of time. Adepts may maintain the final position for up to five minutes.

Awareness: The point of concentration varies according to the flexibility of the body. Be aware of *swadhisthana* chakra or *manipura chakra*.

Sequence: This asana should follow or precede a backward bending asana such as *bhujangasana* or *matsyasana*.

Precautions: Do not force the body to bend forward as it is easy to strain the back. Flexibility comes gradually with practice over a period of time. The variations are both more strenuous than the basic practice and require greater strength in the spine and abdominal muscles.

Contra-indications: People suffering from sciatica, slipped disc, spondylitis, hernia, high blood pressure or heart disease should not perform this asana. It is not suitable during pregnancy.

Benefits: *Paschimottanasana* stretches the hamstring muscles and increases flexibility in the hip joints. It tones and massages the entire abdominal and pelvic region, including the liver, pancreas, spleen, uro-genital system, kidneys and adrenal glands. This asana is especially recommended to make the abdomen and waist supple and to remove excess weight in this area. Circulation to the nerves and muscles of the spine is stimulated, Under expert guidance it may be used to relieve lumbar lordosis, a forward curving of the spine found in the lower

back (sway back) or neck. It is a good practice to straighten the spine, which is fully stretched during this practice.

Paschimottanasana is used in the management of pro-lapse, menstrual disorders, sluggish liver, diabetes, colitis, kidney complaints, eosinophilia, asthma, bronchitis and other respiratory diseases.

4. SUPTA PAWANMUKTASANA^[4]

Stage 1: Lie in the starting position and relax.

Bend the right knee and bring the thigh to the chest. Interlock the fingers and clasp the hands on the shin just below the right knee.

Keep the left leg straight and on the ground. Inhale deeply, filling the lungs as much as possible. Exhaling, raise the head and shoulders off the ground and without straining bring the right knee to the nose. Remain in the final position for a few seconds. While slowly inhaling, return to the base position. Relax the body.

Repeat 3 times with the right leg and then 3 times with the left leg.

Practice note: Ensure that the straight leg remains in contact with the ground. It is important to start with the right leg because it presses the ascending colon directly. Follow with the left leg which presses the descending colon directly.

Stage 2: Remain in the starting position.

Bend both knees and bring the thighs to the chest. Interlock the fingers and clasp the hands on the shin bones just below the knees.

Inhale deeply. Exhaling, raise the head and shoulders and try to place the nose in the space between the two knees.

Hold the raised position for a few seconds, counting mentally.

Slowly lower the head, shoulders and legs while inhaling.

Practise this 3 times.

Awareness: On the movement, the abdominal pressure, and the breath.

Contra-indications: Not to be performed by persons suffering from high blood pressure or serious back conditions such as sciatica and slipped disc.

Benefits: Supta pawanmuktasana strengthens the lower back muscles and loosens the spinal vertebrae. It massages the abdomen and the digestive organs and is therefore very effective in removing wind and constipation. By massaging the pelvic muscles and reproductive organs, it is also useful for impotence, sterility and menstrual problems.

RESULTS

Participants in the forward bending asana group showed a significant reduction in BMI and WHR compared to the control group. The asanas were found to improve digestive function, enhance flexibility, and stimulate abdominal fat loss.

DISCUSSION

The findings suggest that forward bending asanas play a critical role in obesity management by improving metabolism, stimulating internal organs, and enhancing muscle tone.

CONCLUSION

Forward bending asanas are effective in reducing BMI and WHR, making them a valuable component of weight management programs.

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