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REVIEW ARTICLE

The Therapeutic Effects of *Viparita Karani Mudra* on Non-Communicable Diseases

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ABSTRACT

Objective: To explore the physiological and energetic effects of inverted yogic posture – Viparita Karani Mudra in managing non-communicable diseases (NCDs).

Methods: A review of classical yogic texts (Hatha Yoga Pradipika, Gheranda Samhita) combined with an analysis of recent scientific literature was conducted to assess the impact of these asanas on various body systems.

Observations: These postures enhance circulation, stimulate the hypothalamic-pituitary axis, regulate thyroid and autonomic nervous systems, and promote upward movement of Pranic energy. Clinical studies report reduced stress, improved immunity, and balanced cardiovascular parameters.

Discussion: Viparita Karani integrates physical and energetic mechanisms, activating chakras and facilitating parasympathetic dominance, thus supporting holistic health. Precautions are necessary for those with cervical or ocular vulnerabilities.

Conclusion: Inverted asanas serve as safe, complementary interventions in NCD management by harmonizing body, mind, and energy systems and augmenting conventional treatments.

1. INTRODUCTION

Non-communicable diseases (NCDs), which are also referred to as chronic diseases, are chronic illnesses brought on by a confluence of behavioral, psychological issues, environmental, and genetic variables. NCDs cannot be passed from one person to another, just as infectious diseases can. Due to their gradual progression and often lack of symptoms in the early stages, many diseases are challenging to detect in time. According to the World Health Organization, there are four main categories of NCDs: Diabetes mellitus, cancer, cardiovascular disease (CVDs), and chronic respiratory conditions. Tobacco use, excessive alcohol intake, poor diet, and lack of physical activity are the main lifestyle factors contributing to the NCD epidemic.[1] Significant obstacles to medical services and economic growth are presented by the global increase in NCDs, particularly in low- and middle-income nations.[2] According to estimates, NCDs cause 41 million deaths annually worldwide, accounting for around 74% of all fatalities worldwide.[3] Cardiovascular illnesses are the largest cause of death globally, causing 17.9 million fatalities.[3] Because of sedentary lifestyles, urbanization, and dietary changes, the burden of NCDs is rising quickly in developing nations.[4] The National Health Profile (2019) states that NCDs cause over 60% of all fatalities in India.[5] The increasing incidence of age-related NCDs, including dementia and osteoporosis, has also been attributed to longer life expectancies.

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1.1. Common NCDs

1. Coronary artery disease, stroke, and hypertension are examples of CVDs. Obesity, smoking, and elevated cholesterol are risk factors.
2. Cancer: The most common malignancies worldwide are lung, breast, and colorectal cancers, which claim the lives of over 10 million people each year.[6]

3. Type 2 diabetes, in particular, is becoming more prevalent as a result of obesity and sedentary lifestyles. It is a leading cause of blindness, lower limb amputation, and renal failure.[7]
4. Asthma and chronic obstructive pulmonary disease are examples of chronic respiratory diseases that are mostly brought on by smoking and air pollution.
5. Mental health disorders: Anxiety and depression are on the rise worldwide and frequently coexist with other non-communicable diseases, which lowers the quality of life.[8]
6. Obesity: Obesity is more common in all age groups and is now considered a disease that raises the risk of almost all other NCDs.[9]

Promoting physical activity, eating a balanced diet, quitting smoking, and drinking alcohol in moderation are all important aspects of managing non-communicable diseases. In addition, community health education and government efforts are involved.[10] Cognitive-behavioral therapy, psychotherapy, and antidepressants are used to treat mental health issues. Integrative and Alternative Methods: Ayurvedic, Yoga, and Naturopathic systems provide beneficial treatments such as stress alleviation, detoxification, and metabolic equilibrium.[11] Yoga is an age-old Indian discipline that combines meditation, controlled breathing (pranayama), and physical postures (asanas) to enhance overall health.[12] Often called the "Inverted Lake Pose" or "Legs-Up-The-Wall Pose," Viparita Karani Mudra is an important Hatha Yoga pose.[13] This inversion pose, which is derived from the Sanskrit terms Viparita (inverted) and Karani (activity), is used to reverse the body's natural downward flow of vital fluids. Classical sources such as the Hatha Yoga Pradipika and the Vivekamārtaṇḍa define it as a way to channel prana or life force energy upward, which promotes both mental and bodily renewal.[14] Yoga's effectiveness in preventing and treating a variety of illnesses, especially NCDs such as diabetes, heart disease, and mental health issues, has been bolstered by scientific studies in recent decades.

2. METHODS

This study employed a qualitative review-based approach to examine the therapeutic effects of inverted yoga posture – primarily *Viparita Karani* – on various NCDs, including hypertension, diabetes mellitus, cardiovascular disorders, thyroid dysfunction, and psychological conditions. The methodology included a comprehensive review of classical yogic texts, contemporary scientific literature, and clinical studies available in online databases such as PubMed, Google Scholar, AYUSH research portals, and institutional repositories.

2.1. Viparita Karani Mudra

One important Hatha Yoga method is Viparita Karani Mudra, which tries to reverse the downward flow of energy (Apana Vayu) and facilitate its union with Prana Vayu. Classical writings such as the Hatha Yoga Pradipika and Gheranda Samhita describe it. It is traditionally referred to as both a mudra and a restorative inversion. Pranic control is emphasized in yogic traditions as crucial to spiritual and physical growth. Despite appearing to be an inversion, Viparita Karani Mudra is one among the 10 classical mudras (Dasa mudra) listed in Hatha Yoga Pradipika.[15] It is thought to promote Kundalini's awakening by rerouting apana vayu upward to connect with prana vayu.[16] This technique is frequently included in Ayurvedic and yoga rejuvenation programs and is also detailed in the Gheranda Samhita.[17] "Viparita Karani" is derived from the Sanskrit roots "Viparita," which means inverted or reversed, and "Karani," which means to act or do. It, therefore, means "the act of reversing."[18] According to the yogic paradigm, this mudra is a reversal of energetic flow rather than only a physical inversion. Specifically, it promotes spiritual and bodily equilibrium by shifting Apana, which is generally downward, to move upward toward the higher chakras.[19] Through this practice, "death is overcome,"[15] signifying longevity and spiritual awakening, according to the Hatha Yoga Pradipika.

Technique: According to Hatha Yoga Pradipika and Swami Muktibodhananda,[15] the method entails the following steps:

On a level surface, lie supine. Lift the legs so they are vertical. With the elbows anchored, use the palms to support the hips. The trunk is slightly elevated, whereas the head stays on the ground. Hold the position for 2–5 min while breathing normally. Return to Savasana gradually.

Blood flows toward the brain and thyroid as a result of this inversion, impacting the neuroendocrine and metabolic systems.[20] For novices, it can also be altered or supported by a wall.[21]

Benefits: Many people have commended Viparita Karani Mudra for its restorative and healing properties: Increases blood flow to the brain, which lessens weariness and improves mental clarity.[22] Helps control metabolism by gently applying pressure on the neck, which stimulates the thyroid and parathyroid glands.[23] In addition to increasing venous return and alleviating varicose veins, it reverses the gravitational effects on the pelvic and abdominal organs.[20] By Kundalini Tantra, apana and prana must be balanced to preserve ojas or life essence.[24] Helps control stress and prevent aging by revitalizing the endocrine and neurological systems.[23] These advantages support the use of it in therapeutic yoga and Ayurveda, particularly for people who suffer from anxiety, sleeplessness, or hormone imbalance.

Precautions: The mudra has many advantages, but it must be used carefully:

- Not recommended for situations involving menstruation, high blood pressure, hernias, glaucoma, or cervical spondylosis.[21]
- During pregnancy or after meals, it should not be done.
- For people with neck or spinal problems, advice is necessary since incorrect alignment might result in strain[22]
- Holding for an extended period without enough grounding poses (like Savasana) can make you feel lightheaded. For novices, therefore, a preliminary sequence and supervision are recommended.

3. DISCUSSION

Viparita Karani Mudra affects the main bodily systems by balancing physiological processes with the subtle chakra system through energy modulation. By improving cerebral circulation, Viparita Karani soothes the autonomic nervous system and promotes mental clarity and focus. The pose focuses prana on the Ajna Chakra, which is located between the eyebrows and is said to be associated with intuition and higher intelligence.[25] According to yogic texts, concentrated attention on this chakra during practice stabilizes the mind and stimulates the pineal gland, which affects consciousness and circadian rhythms.[26] Endocrine System and Vishuddhi-Sahasrara Axis: The pressure at the base of the throat in this posture stimulates the thyroid and parathyroid glands, which are linked to the Vishuddhi Chakra.[27] At the same time, the upward rerouting of apana promotes energy flow toward the Sahasrara Chakra at the crown, which is in charge of the pituitary and pineal glands – master regulators of

hormonal secretion.[28] This alignment promotes homeostasis and supports spiritual awakening, as stressed in both Hatha Yoga and Kundalini Tantra.[29] Cardiovascular and Respiratory Systems and Anahata Chakra: The semi-inverted position promotes venous return and cardiac efficiency, lowering heart strain and enhancing oxygenation.[23] The heart center's Anahata Chakra is said to regulate respiratory and circulatory health. The physiological and emotional realms are harmonized when it is activated through posture and breath.[30] Viparita Karani helps with diseases including indigestion, constipation, and slow metabolism by reducing downward pressure on the digestive organs and Manipura Chakra.[31] These effects align with the seat of digestive fire (Agni), the Manipura Chakra. The conversion of food into energy and metabolic vitality depends on the apana and prana in this area being balanced, according to traditional sources.[17] Systems of Reproduction with Swadhisthana-Muladhara Chakras: By raising the pelvic area, Viparita Karani helps regulate hormones and enhances circulation in the reproductive organs.[32] In yogic anatomy, the practice reroutes and conserves sexual energy, which is associated with the root (Muladhara) and sacral (Swadhisthana) chakras. Inversion activation of these centers is considered crucial for the preservation of Ojas (vital essence), and they are also fundamental in kundalini awakening.[33] Energy and the Immune Response Stability and Equilibrium: By lowering stress and encouraging parasympathetic dominance, the mudra modifies the hypothalamic-pituitary-adrenal axis. This promotes thymus gland activity close to the heart area (Anahata Chakra) and indirectly strengthens immune function.[34] Researchers have shown that those who practice restorative inversions, such as Viparita Karani, have better immunity and lower cortisol levels.[35] Pranic Balance and Chakra Unification: From a yogic perspective, the major purpose of Viparita Karani is to reverse the downward loss of energy and direct it up the Sushumna Nadi, aligning all chakras from Muladhara to Sahasrara.[24] This ascending Pranic flow is crucial in Kundalini yoga, where spiritual progress is attained through energetic unity.[36] Viparita Karani Mudra's many advantages are still being supported by recent studies. A 2024 study looked into Viparita Karani's initial effects on cardiovascular metrics. The results showed that during the posture, both the systolic and diastolic blood pressures significantly increased and that during recovery, the values returned to baseline. Heart rate followed a similar pattern, indicating improved cardiovascular response and autonomic control during the exercise.[37] A study conducted in 2017 by Rawat evaluated the effects of Uddiyan Bandh and Viparita Karani on physiological factors. Vital capacity and breath-holding capacity showed notable increases in the trial, suggesting improved lung function and respiratory efficiency.[38] Viparita Karani's effectiveness in enhancing blood flow to the pelvic area was demonstrated in a study on pelvic congestion. This asana's therapeutic potential for pelvic health was highlighted by the participants' sustained improvement from the symptoms of pelvic congestion.[39] It is said that the inverted position of Viparita Karani stimulates the thyroid gland, which may help treat hypothyroidism. The impact of posture on the psycho-neuro-endocrine axis may help to reduce stress and maintain hormonal balance.[40] By inducing relaxation and stimulating the parasympathetic nervous system, Viparita Karani may increase immunological function and reduce stress-related inflammation. Its soothing effects improve overall well-being and resilience.[41] Although not unique to Viparita Karani, a thorough meta-analysis of meditation techniques identified unique patterns of brain activity linked to relaxation and focused concentration. According to these results, integrating Viparita Karani into a meditation routine may have comparable neurological advantages.[42]

4. CONCLUSION

Viparita Karani Mudra serves as a link between spiritual practice and optimal physical health. Its effects, which are seen in the digestive, cardiovascular, reproductive, immunological, endocrine, and neurological systems, reflect the multifaceted nature of Pranic realignment and chakra activation. Viparita Karani Mudra offers a holistic, low-risk therapeutic approach to managing NCDs. By harmonizing physiological functions and subtle energy flows, this mudra complements conventional treatments and promotes overall well-being. Proper practice with necessary precautions can enhance their efficacy and safety in integrative health care.

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8. ETHICAL APPROVALS

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9. CONFLICTS OF INTEREST

Nil.

10. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

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