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Importance of Mudras (Hand gesture) Bandhas (Inner Lock) on Health and Physical Fitness: A Comprehensive Review Study

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Abstract

Yoga mudras and bandhas are essential for harmonizing the body, mind, and spirit, making them profoundly important in our lives. Bandhas, which are internal muscular locks, help regulate and enhance energy, fortifying the body, stimulating internal organs, and preparing individuals for deeper meditation whereas, mudras, are subtle hand gestures that assist in redirecting and balancing the flow of prana (life energy), calming the mind, enhancing focus, and promoting physical healing. When used together, mudras and bandhas create a powerful synergy that not only boosts emotional stability and physical well-being but also opens pathways for spiritual growth and self-awareness, offering a comprehensive approach to living with inner peace, vitality, and harmony. Physical fitness is a crucial component of health, enhancing physical strength, endurance, and cardiovascular wellness. This, in turn, reduces the risk of various diseases, elevates mood, and improves daily functioning. The present qualitative review study aims to established the role of traditional Indian Bandhas and Mudras on optimising physical Fitness and overall health of an individual. The findings of the study revealed that bandhas and mudras act as supplement to improve health, physical fitness and overall quality of life along with other physical activities.

Keywords: Bandhas, Mudras, Physical Fitness and Health

Introduction:

Mudras and bandhas offer non-invasive, powerful methods for self-care. They can be practiced in daily life to promote holistic well-being. Mudras and bandhas are more important in yoga than asana and pranayama due to their influence on the pranamaya and manomaya koshas which are two of the five yogic sheaths (koshas) that cover the true Self, with Pranamaya being the vital energy body (prana/breath) and Manomaya the mental/emotional body (mind, thoughts, feelings) that interweave the physical (Annamaya) and wisdom (Vijnanamaya) layers, governing life force and mental states respectively. The nervous system generates sensations and affects mental processes in the body. In the pranic field, energy generation in the body fluctuates. Both activity and dissipation occur in the inner mental and pranic states (1). Traditionally, bandhas were seen as part of mudras and were passed down orally from teacher to student. The Hatha Yoga Pradipika addresses both bandhas and mudras collectively, and ancient tantric writings do not differentiate between the two. Bandhas are a key component in both mudra and pranayama practices. However, their locking mechanism indicates that they are a crucial set of techniques in their own right. The term bandha in Sanskrit means to 'hold', 'tighten', or 'lock'. These meanings accurately portray the physical movement involved in bandha

practices and their influence on the pranic body. The purpose of bandhas is to seal the pranas in specific areas and redirect their flow into the sushumna nadi to facilitate spiritual awakening (2).

The Sanskrit terms “Mudra” is defined as “gesture” or “attitude” that are mental, emotional, devotional, and artistic. In yogic practice mudras refers as attitudes of energy flow, meant to link individual pranic force with universal or cosmic force (3).

In yoga and meditation, **mudras** (gestures/seals) and **bandhas** (energy locks) act as a synergistic "energetic container" to manage the flow of prana (life force) throughout the body. While mudras guide and direct energy, bandhas seal and concentrate it, making them essential for physical health and spiritual awakening (4-5). Bandhas should first be practised and mastered individually. Only then can they be beneficially incorporated with mudra and pranayama practices. When combined in this way, they awaken the psychic faculties and form an adjunct to higher yogic practices. Yoga mudras and bandhas together play a vital role in harmonizing the body, mind, and spirit, making them deeply significant in human life. Bandhas, which are internal muscular locks, regulate and intensify energy, thereby strengthening the body, stimulating internal organs, and preparing practitioners for deeper meditation. Mudras, defined as subtle hand gestures, redirect and balance the flow of prana (life energy), calm the mind, improve focus, and support physical healing. The combination of mudras and bandhas creates a synergistic effect that enhances emotional stability and physical health, while also facilitating spiritual awakening and self-awareness. This integrated approach offers a comprehensive path to inner peace, vitality, and balance (4-5).

The present qualitative review study aims to established the role of traditional Indian Bandhas and Mudras on optimising physical Fitness and overall health of an individual. The findings of the study revealed that bandhas and mudras act as supplement to improve health, physical fitness and overall quality of life along with other physical activities.

Rationale of Bandhas and Mudras with Fitness:

Fitness in sports focuses on developing specific physical abilities such as strength, speed, and endurance to achieve high performance in a particular sport. Yoga, in contrast, emphasizes overall health by combining physical postures, breathing, and mental focus to improve flexibility, balance, core strength, reduce stress, and enhance general well-being. It also helps prevent injuries and improves mental clarity, which is valuable for athletes. While both support physical fitness, sports training is mainly aimed at competitive performance, whereas yoga builds a balanced body and mind that supports all activities, including sports (6).

Bandhas and mudras in yoga benefit sports fitness by enhancing respiratory efficiency, core stability, neuromuscular coordination, and mental focus, which are all critical for athletic performance. Mudras, symbolic gestures often involving the hands, head, or full body, primarily affect the mind-body connection, influencing psychological states and subtle physiological functions (7). Bandhas, or energy locks, involve conscious muscular contractions that regulate energy flow (prana) and stabilize the core, offering direct physical benefits for athletes. Bandhas, or energy locks, involve conscious muscular contractions that regulate energy flow (prana) and stabilize the core, offering direct physical benefits for athletes. (8).

Practicing bandhas and mudras contributes to fitness by uniting physical power, energy control, and mental focus into a comprehensive approach. Mudras, which are delicate body and hand positions, function as energy regulators, guiding prana, or life energy, to particular body areas. This practice aids in improving concentration, soothing the nervous system, and promoting recovery. Consequently, mental well-being is boosted through stress reduction and enhanced focus. Bandhas, involving the contraction of specific muscle groups, fortify the core and pelvic region, refine posture, and invigorate internal organs, thereby elevating physical conditioning. They also govern breathing and energy circulation, leading to greater stamina and vigor during exercise or everyday tasks. In combination, mudras and bandhas foster a harmonious relationship between physical

robustness and mental equilibrium, emphasizing that fitness encompasses not only muscle growth but also efficient energy use, emotional steadiness, and general health.

Concept of fitness:

Total fitness is a multidimensional concept that encompasses various aspects of life, including physical, medical, nutritional, emotional, social, and spiritual well-being. Research indicates that when these dimensions are positively integrated, they support and enhance one another, leading to a healthier, happier, and more energetic individual (9). It is important that all of the Six Pillars are at their 100% potential in order to achieve longevity and a healthy life. One pillar can automatically affect another. For instance, anxiety (Emotional Fitness) can affect your gut health (Medical Fitness); as well as not eating right nutrients (Nutritional Fitness) can impact the ability to engage in other activities due to lack of energies (Physical Fitness).

Physical Fitness is a state of health and well-being, specifically the ability to perform daily activities efficiently without undue fatigue, and still have enough energy left over for leisure and emergencies. It goes beyond merely being free of disease and encompasses physical, mental, and social well-being (10-11).

Physical fitness refers to a collection of health- and skill-related attributes that enable an individual to perform daily activities with energy, alertness, and minimal fatigue, while retaining sufficient capacity for leisure pursuits and unexpected physical demands (12). The level of physical fitness can be assessed through standardized tests designed to measure these attributes.

Physical fitness is closely linked to disease prevention and health promotion; therefore, evaluating fitness components is both appropriate and essential prior to initiating preventive or rehabilitative programs. Physical fitness can be improved through regular physical activity and structured exercise (13). Studies have shown that higher levels of physical fitness are positively associated with improved performance in physical activities, including participation and achievement in sports (14).

Physical fitness is often measured to see if an adequate standard is in place to ensure good health. The general definition of physical fitness is offered by Howley & Franks (2007) as “a state of well-being with a low risk of premature health problems and energy to participate in a variety of physical activities.” The two types of physical fitness most often identified are health-related physical fitness (HRPF) and skill-related physical fitness (SRPF) (15). The measurement procedures of different components of SRPF and HRPF are presented in the following table-1 and 2 respectively.

Table-1. Different components of Skill Related Physical Fitness (SRPF) with measurement Procedures

Component	Meaning	Measuring Procedure
Balance	Balance is the ability of an individual to maintain their line of gravity within their base of support. It can be classified into static and dynamic. Balance is control by three different system: somatosensory, visual and vestibular system (16).	BESTest, berg balance scale (17) etc.
Coordination	It is the ability to use the senses, such as sight and hearing, together with body parts in performing motor tasks smoothly and accurately (12)	Finger to Nose test (18), Alternate hand wall toss test is one the test (19).
Power	It is the ability to exert maximum force in the shortest possible time, combining strength (force) and speed, mathematically expressed as $Power = Force \times Velocity$ (20).	Vertical jump test (21), Medicine ball throw test (22).
Agility	Agility is defined as “a rapid whole-body movement with change of velocity or direction in response to a stimulus” (23).	Shuttle Run (24).
Reaction time	Reaction time is related to the time elapsed between stimulation and the beginning of the reaction to it (23). Reaction time is affected by several variables including attentive, cognitive and motor functions.	Drop-Ruler test (25).
Speed	It relates to the ability to perform a movement within a short period of time. Speed combined with strength will provide power and force.	40-meter sprint distance Test (26)

Table-1. Different components of Health-Related Physical Fitness (HRPF) with measurement Procedures

Component	Meaning	Measuring Procedure
Cardiovascular endurance	the ability to perform exercises at moderate-to-vigorous intensities for a prolonged period of time (28)	Cooper 12-Minute Run/Walk Test (29), Queens College (McArdle) Step Test (30).
Muscular strength	It is the maximum force a muscle or muscle group can exert in a single effort or over a short period, allowing you to lift heavy objects or move against significant resistance (27).	One-Repetition Maximum (1RM) (31)
Muscular endurance	It is the ability of muscles to sustain exercise for a longer period of time (28).	Push-up Test (32), Curl up (33)
Flexibility	It is the ability to move muscles and joints through a full range of motion (28).	Sit-and-Reach Test (hamstring/low back) (34)
Body composition	It is the ratio of fat mass to fat-free mass like muscle and bone or Percentage of body fat present in the body (28).	Body Mass Index (BMI) (35)

The connection between Health & Fitness:

Health and fitness are interconnected yet separate ideas: health signifies a state of complete physical, mental, and social well-being, whereas fitness denotes the capacity to carry out physical activities effectively. Fitness serves as a vital aspect of health, enhancing physical strength, endurance, and cardiovascular wellness, which subsequently lowers the risk of various diseases, boosts mood, and improves daily functioning. Attaining good health necessitates a comprehensive approach that encompasses fitness, along with other elements such as adequate nutrition, sleep, and stress management.

Health

Comprehensive concept: Health represents an all-encompassing state that includes physical, mental, emotional, and social well-being.

Holistic well-being: It entails the absence of illness and the capability to handle life's challenges.

Physical fitness is one of the numerous foundations of good health. Fitness specifically pertains to the body's capacity to execute physical tasks with vigor and alertness. It is an quantifiable elements: It can be assessed through factors such as strength, endurance, flexibility, cardiovascular health etc. Enhanced through exercise and nutrition and its levels can be elevated through consistent physical activity and appropriate nutrition.

- Fitness boosts health: Regular physical activity and a solid level of fitness significantly enhance health by diminishing the risk of chronic illnesses like heart disease, diabetes, and certain cancers.
- Fitness improves quality of life: Being physically fit facilitates greater daily functionality and can enhance mental health by alleviating stress and uplifting mood.
- Health is the ultimate objective: Although fitness is an essential component of the journey, health remains the ultimate aim of a balanced, active lifestyle that also emphasizes other facets of well-being.

Description of Bandhas:

जालन्धरोद्ध्याणनमूलबन्धाञ्
जल्पन्ति कण्ठोदरपायुमूलात् ।
बन्धत्रयेऽस्मिन्परिचीयमाने
बन्धः कुतो दारुणकालपाशात् ॥

Jalandhara-audyanaka-mulabandhan jalpanti kanthodara-payumule. Bandha-traye'smin-parichiyamane bandhah kuto daruna-kalapashaih

Meaning: Jalandhara bandha, uddiyana bandha and moola bandha are situated respectively in the throat, abdomen and perineum. If their duration can be increased, then where is the fear of death?

Yoga Taravali (Sutra 5; Sri Adi Shankaracharya) (36)

The Sanskrit word bandha means to 'hold', 'tighten' or 'lock'. These definitions precisely describe the physical action involved in the bandha practices and their effect on the pranic body. The bandhas aim to lock the pranas in particular areas and redirect their flow into sushumna nadi for the purpose of spiritual awakening.

There are four bandhas: jalandhara, moola, uddiyana, and maha. The last one is a combination of the first three. These three bandhas directly influence the three granthis or psychic knots.

Moola bandha corresponds to brahma granthi, uddiyana bandha relates to vishnu granthi, and jalandhara bandha is linked to rudra granthi. The granthis obstruct the free flow of prana through sushumna nadi, thereby hindering the awakening of the chakras and the ascent of kundalini.

Brahma granthi is the initial knot, associated with mooladhara and swadhisthana chakras. It is connected to the survival instinct, the drive to reproduce, and encompasses deep, instinctual knowledge, awareness, and desire. When one transcends brahma granthi, the kundalini or primal energy can ascend beyond mooladhara and swadhisthana without being drawn back by the attractions and instinctual patterns of the personality.

The second knot is vishnu granthi, which is linked to manipura and anahata chakras. These two chakras are concerned with the sustenance of the physical, emotional, and mental dimensions of human existence. Manipura supports pranamaya kosha, the energy body, which governs digestion and metabolism. Anahata sustains vijnanamaya kosha, the mental body, and both affect annamaya kosha, the physical body. Once vishnu granthi is transcended, one is liberated from physical, mental, and emotional attachments. Relationships and energy transform into a more universal nature, rather than being confined by personal preferences or aversions.

The final knot is rudra granthi, associated with vishuddhi and ajna chakras. Vishuddhi and ajna support vijnanamaya kosha, the intuitive or higher mental body, and represent the transformation of an existing form, idea, or concept into its universal essence. When rudra granthi is pierced, individuality is relinquished. The previous ego identification is abandoned, and the experience of unmanifest consciousness, beyond the phenomenal universe, arises at ajna and sahasrara chakras (37).

Types of Bandhas:

Commonly, we pay attention approximately best four kinds of yoga bandhas however, there are six varieties of bandhas in hatha yoga, 2 minor, 3 major & 1 maha bandha (Table-3).

Table-3. Types of Bandhas

Minor	Major	Maha
Hasta Bandha	Jalandhar Bandha	
Pada Bandha	Uddiyana Bandha	Mahabandha
	Moola Bandha	

- A. Minor Bandhas those are completed with the aid of locking our hand & feet place. 1. Hasta Bandha – hand locks this bandha locks the prana in the hand and palms. Except, this bandha awakens the strength channels up the arm. Hasta bandha associated with “hand lock”. This bandha locks the prana inside the hand and palms. 2. Pada Bandha – It is also known as toes lock, the word pada actually means foot. Pada bandha locks the power in our feet and activates the arches of the toes. This lock binds us with the earth’s strength and allows to channelizing the prana on the feet. It supports the activation and working capacity of joints in the legs and pelvic region.

B. Major Bandhas:

1. **Jalandhara Bandha-** The first of the four bandhas is known as jalandhara bandha, which involves the contraction of the neck area. Numerous nadis, nerves, and blood vessels traverse the neck, a relatively narrow passage, leading into the head. Consequently, jalandhara bandha impacts the various nadis that are concentrated in the neck, throat, head, and shoulders. Jalandhara bandha is an uncomplicated practice. With the spine kept straight, the head is lowered until the chin makes contact with the throat pit. As this bandha is executed alongside kumbhaka, or breath retention, the duration for which it is held is contingent upon the individual's ability to hold their breath. The retention can be classified as either external or internal. When this practice is carried out correctly, the pressure is distributed, allowing energy to flow towards the head while also moving down the back.
 2. **Uddiyana Bandha-** The second bandha is known as uddiyana bandha, which involves the contraction of the abdomen. Unlike other regions of the body, the abdomen lacks bony structures; instead, its walls are composed of muscles and nerve fibres. Numerous nadis end in this region. When the abdomen is contracted, the navel is drawn back towards the spinal column and maintained in that position for as long as one can comfortably hold the breath, after which it is released. Uddiyana bandha is practiced solely in conjunction with external kumbhaka.
 3. **Moola Bandha-** The third bandha is known as moola bandha. The muscles of the urethra and anus are distinct. To manage the urge to urinate, one tightens the urethra rather than the anus. When the contraction is limited to the urethra, it is referred to as vajroli mudra. Conversely, when the contraction occurs in the anus, it is termed ashwini mudra. The contraction of the area between these two is identified as moola bandha. To effectively practice moola bandha, alternate between practicing ashwini and vajroli mudras. When both mudras are performed together, a tingling sensation is felt. In men, this sensation is localized in the mooladhara chakra area, known as mooladhara pinda. For women, the focus of psychic concentration and physical contraction is located just inside the entrance to the womb.
- C. The fourth bandha is known as **maha bandha**, which integrates the first three bandhas and alters the energy patterns within the body (4, 38).

Physiological and Physical Effects of Bandhas:

Throughout history, various scriptures and contemporary scientific research on Bandhas have demonstrated numerous positive effects on the human body. Bandhas are described as enhancing core strength, stability, and posture by activating deep abdominal and pelvic-floor muscles, which support spinal alignment and improve the safety and ease of physical practices. Uddiyana Bandha may stimulate digestive organs, improve peristalsis, support metabolic function, and enhance respiratory efficiency through stronger diaphragm engagement, (39). while Mula Bandha benefits urogenital and reproductive health through pelvic-floor activation. Traditionally, bandhas are believed to regulate prāṇa, seal and redirect energy, and support deeper yogic practices by preventing energy “leakage” and stabilizing the mind. Mentally and emotionally, they promote calmness and internal balance, especially when paired with mindful breathing. The study of Verma and coworkers (40) reported that immediate cardiovascular and autonomic effects: Jalandhara Bandha increased heart rate and blood pressure, Uddiyana Bandha decreased them, and Mula Bandha returned values toward baseline, with heart-rate variability shifts suggesting sympathetic activation and autonomic modulation. While these findings

offer early empirical support, long-term health effects, deeper physiological mechanisms, and controlled comparisons remain under-researched.

Bandha practices—such as Uddiyana, Moola, Jalandhara, and Mahabandha—are reported to influence both physical and energetic systems, offering potential therapeutic and wellness benefits. Uddiyana Bandha has shown immediate improvements in heart-rate variability among hypertensive individuals, (41) suggesting it may serve as a useful non-pharmacological strategy for blood-pressure management. Moola Bandha supports posture, pelvic-floor strength, vitality, mental focus, and sexual health. Overall, bandhas are described as activating muscles, strengthening the spine and nervous system, stabilizing emotions, stimulating chakras, and aiding bodily purification. They are also linked to improved thyroid, pancreatic, digestive, metabolic, and weight-management functions. Jalandhara Bandha helps regulate blood pressure during pranayama—especially in Kumbhaka—while promoting mental calmness through effects on the carotid sinuses and breath retention. Collectively, the bandhas channel pranic energy, support meditative focus, calm the heart, and exert positive effects on the autonomic nervous system (42).

Description of Mudras:

The Sanskrit term mudra translates to 'gesture' or 'attitude'. Mudras can be characterized as psychic, emotional, devotional, and aesthetic gestures or attitudes. Yogis have perceived mudras as expressions of energy flow, designed to connect individual pranic energy with universal or cosmic energy. Mudras are introduced once some proficiency has been achieved in asana, pranayama, and bandha, and after gross blockages have been cleared. Various texts from ancient times to the present have described mudras to ensure their preservation for future generations. Nevertheless, such references were never comprehensive or clearly defined, as these techniques were not meant to be learned from written material. Practical guidance from a guru was always considered essential before attempting them. Mudras represent advanced practices that lead to the awakening of the pranas, chakras, and kundalini, and can confer significant siddhis, or psychic powers, upon the experienced practitioner (4).

The yoga mudras can be divided into roughly five groups, which are outlined below.

1. **Hasta (hand mudras)** The hand mudras featured in this book are meditative in nature. They channel the prana released by the hands back into the body. Mudras that connect the thumb and index finger activate the motor cortex at a very subtle level. They create a cycle of energy that flows from the brain to the hand and then returns. A conscious awareness of this cycle quickly leads to internalization. Techniques in this category include: Jnana mudra Chin mudra Yoni mudra Bhairava mudra Hridaya mudra.

2. **Mana (head mudras)** These practices are a vital component of kundalini yoga and many serve as meditation techniques on their own. They engage the eyes, ears, nose, tongue, and lips. Techniques in this category include: Shambhavi mudra Nasikagra drishti Khechari mudra Kaki mudra Bhujangini mudra Bhoochari mudra Akashi mudra Shanmukhi mudra Unmani mudra.

3. **Kaya (postural mudras)** These practices involve physical postures combined with breathing and focus. Techniques in this category include: Vipareeta karani mudra Pashinee mudra Prana mudra Yoga mudra Manduki mudra Tadagi mudra.

4. **Bandha (lock mudras)** These practices merge mudra and bandha. They energize the system with prana and prepare it for kundalini awakening. Techniques in this category include: Maha mudra Maha bheda mudra Maha bheda mudra.

5. **Adhara (perineal mudras)** These techniques redirect prana from the lower centers to the brain. Mudras that focus on sublimating sexual energy fall into this group. Techniques in this category include: Ashwini mudra Vajroli/sahajoli mudra. Table-4. Represents the details of various categories of mudras.

Table-4. Classification of mudras

Hasta Mudrās (Hand Mudrās)	Kāya Mudrās (Body or Postural Mudrās)	Prāṇā Mudrās (Breath-based Mudrās)	Bandha Mudrās (Lock-based Mudrās)	Mano / Citta Mudrās (Mental Mudrās)	Adhāra / Kuṇḍalinī Mudrās
Jñāna Mudrā	Mahāmudrā	Kākī Mudrā	Mūla Bandha	Śāmbhavī Mudrā	Śakti Cālana Mudrā
Chin Mudrā	Mahābandha	Mātāngī Mudrā	Uḍḍiyāna Bandha	Unmanī Mudrā	Vajrolī Mudrā
Prāṇa Mudrā	Mahāvedha	Bhujāṅginī Mudrā	Jālandhara Bandha		Khecarī Mudrā
Apāna Mudrā	Viparīta Karaṇī				
Dhyāna Mudrā					

Physiological and physical effects of Mudras:

Mudras are hand, body, or energy gestures used in yoga, meditation, and Ayurveda to influence the flow of prana (life-force) and modulate the nervous, endocrine, and musculoskeletal systems. While many claims are traditional, a growing body of psychophysiology research supports the mechanisms through which mudras exert effects.

Mudras influence the body and mind through interconnected nervous, hormonal, respiratory, circulatory, musculoskeletal, energetic, and psychological pathways. They enhance parasympathetic activity, calming the nervous system while improving mind–body awareness, neural integration, and emotional regulation. By reducing stress responses, mudras may indirectly support hormonal balance, including thyroid, reproductive, and metabolic functions. They encourage smoother, deeper breathing, improving oxygenation and lung capacity, while also supporting circulation, blood pressure regulation, (43) and microvascular flow. Mudras strengthen hand and finger muscles, improve posture, reduce tension-related pain, and—according to traditional yogic theory—balance elemental energies, guide prana through the nadis, and activate specific chakras. Psychologically, mudras help improve focus, memory, confidence, and mood, reducing anxiety and depression through relaxation, mindfulness, and enhanced frontal-lobe engagement.

Across traditional yoga texts and modern preliminary studies, mudras are described as non-invasive practices that may support various aspects of health, including improved heart rate stability, circulation, oxygen saturation, and cardiopulmonary function. Research also suggests potential benefits for hormonal balance such as thyroid function (44), regulates blood pressure (45) reduced anxiety, stress, and depression, better cognitive performance, enhanced immune and respiratory resilience, support for menopausal symptoms, and improved neuromuscular coordination in athletes. While these findings are encouraging, most studies are small or early-stage, so the evidence remains suggestive rather than conclusive.

Role of Bandhas and Mudras for Optimizing Health and Physical Fitness:

Bandhas and mudras are presented as powerful yogic practices that support optimal health and physical fitness by improving cardiovascular function, stabilizing the nervous system, and enhancing muscular and structural strength.

Uddiyana Bandha may help regulate blood pressure and improve heart-rate variability, while Moola Bandha strengthens the pelvic floor, improves posture, and boosts concentration. Together, bandhas activate deep muscle groups, improve spinal integrity, support endocrine and digestive function, and promote emotional balance.

Traditional mudras further complement physical fitness by enhancing respiratory efficiency, (46) circulation, oxygenation, and heart function—especially when combined with pranayama or meditation. These combined practices are associated with lower blood pressure, reduced heart rate, improved blood flow, and overall better physiological regulation.

In essence, bandhas and mudras offer a holistic, non-invasive approach to strengthening the body, supporting cardiovascular and metabolic health, and enhancing overall physical well-being.

Conclusion:

Overall, the practices of bandhas and mudras are presented as non-invasive yogic techniques that collectively support cardiovascular function, autonomic balance, musculoskeletal stability, energetic regulation, and mental focus.

Across the descriptions, they are portrayed as influencing heart-rate variability, blood pressure, circulation, respiration, endocrine activity, and digestive processes, while also strengthening structural systems such as the spine and pelvic floor. Traditional yoga texts highlight a wide range of mudras whose reported effects—nervous-system, respiratory, hormonal, and energetic—are characterized as promising for modern wellness. In combination with pranayama and meditation, these practices are suggested to promote improved cardiovascular markers and overall physiological and mental well-being. Mudras (hand gestures) and Bandhas (inner locks) play a significant role in promoting health and physical fitness by regulating the flow of prāṇa (vital energy) in the body. Mudras stimulate specific nerve endings and energy channels, helping to improve circulation, neuromuscular coordination, concentration, and mental balance. Bandhas—such as Mūla, Uḍḍīyāna, and Jālandhara—strengthen core muscles, enhance respiratory efficiency, support spinal health, and optimize the functioning of endocrine and digestive systems. Together, mudras and bandhas improve posture, stability, and body awareness, reduce fatigue and stress, and enhance physical endurance. Their regular practice supports holistic fitness by integrating physical strength with mental and energetic balance. So, it can be concluded that Bandhas and Mudras can be used as supplement along with regular physical exercise to optimized mental clarity and toughness and fitness as a whole.

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