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EFFECT OF BHRAMARI PRANAYAMA ON HEALTH – AN OVERVIEW

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ABSTRACT:

Pranayama is a branch of yoga, practicing yoga is extremely beneficial to mankind in maintaining sound physical and mental health. This overview article aims to attain apperception on the studies conducted on the effectiveness of Bhramari Pranayama (Bhr.P) on health. The studies done by using Medline, Google scholar, Pubmed and manual search. Studies conducted on the effect of Bhr.P on health. In the included studies, the Bhr.P practices have shown para-sympathetic dominance. There are some encouraging effects of Bhr.P on various physiological systems and also in mental health. Still the published studies are not homogeneous, dealing in different condition and different population this heterogeneity serves as a resource for the limited scope of studies on Bhr.P. Therefore, it is important on a large-scale, properly designed, randomized trials of Bhr.P on various systems have to be done to justify these effects efficiently.



KEYWORDS : Pranayama , Google scholar, Pubmed and manual search.

INTRODUCTION:

Yoga is an ancient Indian science that designs way of life with its various practices. It is being practiced in the form of Asana (Posture), Pranayama (breathing manipulation), Meditation (concentration technique) etc by the practitioners in range of methods and style. Pranayama is one practice that has been found to be effective to physiology of mankind in many ways. The Sanskrit word Pranayama contains two segments namely Prana (means vital force) and Yama (means control) (Kuppusamy, Kamaldeen, Ravishankar, Amaldas, & Shanmugam, 2017). It literally means a yogic act performed for controlling the flow of vital energy that governs all the physiological process in the body. Maharishi Patanjali, in his Ashtanga yoga, has given more importance to pranayama than asana for good health (G.Veerabhadrapa, Herur, Patil, B.Ankad, & Chinagudi, 2011). Pranayama consists of three phases: Purak (inhalation), Kumbhak (retention) and Rechak (exhalation) (Saraswati, 1994). These can be practiced either alone or with combination which depends upon the type of pranayama. In human beings, the breath is an active connection between the body and mind while the Pranayama is considered as manipulation of once own breathing (Chodzinski & Res, 2000). Different types of pranayama produce specific physiological responses and it greatly depend on type and duration of the practice (Vivek Kumar Sharma¹, Subramaniam, Rajajeyakumar, Bhavanani, & Sahai, 2013). Nadisuddhi, Savitri, Kapalbhathi, Bhasrika, Bhramari Pranayama, and so on are well known among them. Pranayama, by continuous practice reduces the dead space ventilation and decreases the work of

breathing. Entire lung is ventilated in contrast to the shallow breathing which only refreshes the base of the lung.⁸ Practicing pranayama regularly has a positive impact on cardiovascular,^{9,10} and respiratory functions, (Beutler, Beltrami, Boutellier, & Spengler, 2016) improves the autonomic system towards parasympathetic dominance.^{13,14} This in turn reduces the effects of stress and strain on various systems. Hence the overall physical and mental health improves (Udupa & Singh, 1972). Each style of pranayama has its own beneficial effect based on the breathing cycle, tidal volume and other factors like the use of mouth, nostrils, constriction of laryngeal muscles and position of the glottis (Kuppusamy, Kamaldeen, Ravishankar, Amaldas, & Shanmugam, 2017).

The Bhramari is one type of pranayama. Its simplicity of slow breathing and that it could be easily practiced by everyone irrespective of their age or gender makes it modifiable. In Bhr.P, the practitioner will sit in any comfortable posture and inhale and exhale through nostrils slowly and deeply. While exhaling, will have to produce sound (humming sound) like bumble bee strictly through nasal airways, keeping oral cavity closed by the lips, ears closed by fingers.¹⁷ When we look into the benefits of this pranayama, the self-induced humming sound in this practice resembles mantra repetition technique. Bhr.P changes the normal breathing rhythm, with prolonged exhalation and short inhalation, which produces significant impact in physiological system.¹⁸ Practice of Bhr.P for 5-10 min continuously induce subjective feelings of mind refreshment and blissfulness and sometimes the subjects are believed to go to even meditative state.¹⁹ So Bhr.P technique is not only a breathing practice but also a form of meditation. As compared with other pranayama, it does not have any kind of breath holding or alternate nostril involvement with counting. Added to above, the humming sound which is produced during the breathing gives more attraction and interest to the subjects for practicing the pranayama. In this, it's very convenient to control and check the correctness by the sound of humming which is produced by the pranayama practitioners. It has been reported that Bhr.P practice is effective for correcting the hormonal imbalance conditions and other disorders like hypertension, anxiety, and depression. The calming effect of the Bhr.P helps in overcoming drug dependency.²⁰ However very few scientific studies on the effects of this technique have been done so far.

Improve Cardiovascular Function:

Kuppusamy et.al conducted a study on Sixty apparently healthy adolescents of both sexes participated in the study. To observe the Immediate Effects of Bhr.p on cardiovascular system that Bhr.P practice produces relaxed state and, in this state, parasympathetic activity overrides the sympathetic activity. It suggests that Bhramari pranayama improves the resting cardiovascular parameters in healthy adolescents (Kuppusamy, Kamaldeen, Pitani, & Amaldas, 2016). Similar kind of evidence found by (Nivethitha, Manjunath, & Mooventhana, 2017; Sujana & Deepika, 2015)

Improve Pulmonary Function

Pulmonary system is one of the important systems in human body. Kuppusamy and colleagues investigated the impact of Bhr.P on the pulmonary system and they found that it, improvement in all pulmonary function parameters; FVC, FEV1, FEV1/FVC ratio, FEF 25%-75% and PEF was seen in the Bhr.P group than the control group adolescents. Slow vital capacity (SVC) and Maximum Voluntary Volume (MVV) also showed significant improvement in the prāṅyāma group. Therefore Bhr.P practice is effective in improving the pulmonary function among the adolescents which could be utilized for further clinical studies (Kuppusamy, Dilara, Ravishankar, & Julius, 2017).

Improve Brain Functioning

Studies measuring mental health outcomes have shown decreases in anxiety, and increases in cognitive performance after yoga interventions. Similar studies have also shown cognitive advantages amongst yoga practitioners versus non-practitioners. The mental health and cognitive benefits of yoga are evident, but the physiological and structural changes in the brain that lead to this remain a topic that lacks consensus. A group of researchers observed published article on Bhr.P. After a narrowed search through a set of specific inclusion and exclusion criteria, 15 articles were used in this review. It was concluded that

breathing, meditation, and posture-based yoga increased overall brain wave activity. Increases in gray matter along with increases in amygdala and frontal cortex activation were evident after a yoga intervention. Yoga practice may be an effective adjunctive treatment for a clinical and healthy aging population. Further research can examine the effects of specific branches of yoga on a designated clinical population (Desai, AnishaTailor, & Bhatt, 2015; Bitla, 2017).

Improve Reaction Time

The improvement in the/reaction time is important, as it is an indicator of cognitive function. Therefore, there is a need, especially for adolescents in the form of techniques or courses that can improve the reaction time. A group of researchers prove that the effect of practiced the Bhramari Pranayama for 3 days in a week for 6 months. Shortening of RT implies an improvement in the information processing and reflexes. This beneficial effect of Bhr.P on reaction that are Auditory Reaction Time (ART) and the Visual Reaction Time (VRT) were assessed before and after Bhr.P practice time can be used for improving cognitive function in the adolescents for their academic performances(Maheshkumar, 2019).

Improve Mental Health

Mental health as a being of wellbeing in which individual realize his or her own abilities, can cope with normal stress of life, can work productively and fruitfully, able to make his or her community (World Health Organization, 2014). Srivastava and colleagues investigate the impact of Bhr.P on mental. the results revealed that Bhramari Pranayama intervention was found significant effect on mental health and increased level of mental health was found in post study in comparison to pre study. This concludes that Bhramari Pranayama provides a means to individual peace, happiness, develops optimism attitude, self-esteem and proper coordination between mind and body (Srivastava, Goyal, Tiwari, & Patel, 2017).

CONCLUSION

this study attempted to describe the effect of Bhr.P on health. The published studies are heterogeneous, dealing in different grounds and this heterogeneity serves as a source. Even though very few studies are available, it creates a gap in this field. There is a huge area unexplored on Bhr.P. Since, for brain we don't have any stretching exercises like other parts of the body, vibration of head is a good alternative for that and vibration by one's own voice might not be harmful for the brain tissues. Hence it is evident that it influences multiple systems in the body and there is definitely a scope to have desirable effects physical, physiological and psychological health. However, there is a need to focus on strengthening the methodology and study designs for more valid and reliable result.

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