

A Scientific Report on the Effects of Bhramari Pranayama

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ABSTRACT

Pranayama is retention of breath. It is a process of breathing practices that develop strength of the vital power of body. Bhramari Parnayam (B.Pr) is one of the forms of pranayama where sound vibration like bumble bee humming is produced by exhalation of breathing. The sound vibration of a certain wavelength has a good impact on vital organs like brain, lungs, etc. Data collection, extraction, and synthesis were made through Methodological Quality Rate Scale (MQRS). Objective of this review work is focused on the effect of B.Pr on vital organs of body and overall health of a person.

Key Words - Pranayam, Bhramari Pranayama, Bumble bee, Humming, Breathing, Brain, Lungs, Data Collection, MQRS

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INTRODUCTION

B.Pr is a breathing technique named before the black Indian bee - Bhramar (*Bombus Latreille*, 1802). So, it is also called 'Humming bee pranayama'. As per the Patanjali Yoga Sutra -

"Bahyabhyantarastambhavrutirdeshakalasanghya bhihi paridrashto dirghasukshma" (II Sutra 50)

It means that internal and external breath and overall restraint of breath is regulated by place, time and number of breath (Saraswati, 2000). It also defined as retention of breath (Saraswati, 2000). This breathing practice harmonizes the activities of the vital organs. The aims and objective of this paper is to analyze the published work on B.Pr with scientific angle. The effect of B.Pr on the well being of the human health is reported on different scientific researches. Its effect on central nervous system, autonomous nervous system, endocrine system, blood pressure, pulse rate, anxiety, mental and physical stress, obesity, mass - energy balance etc. Scientific reports say that endocrine secretions from pituitary gland, adrenal gland are induced by regular B.Pr practices. During pregnancy the hormonal secretions are helpful (www.forceful-tranquility.com/).

METHODOLOGY

A systemic review work was done by online collections of the published works related to this paper. Several key works and also the combinations of key words were used to get data. Key words used during the search: Covid 19 and pranayama, Bhramari pranayama, bumble bee humming pranayama, effects, benefits, practices of BP.

Selection of studies: The collected references were further analyzed on the basis of their relevance and then inclusion and exclusion criteria.

Data extraction: The selected papers were used to extract objective of the studies, method and mythologies applied.

Data synthesis: The quality of papers were assessed for their Methodological Quality Rating Scale (MQRS)(Miller & Wilbunce, 2002).

RESULTS & DISCUSSION

Several works related to the Bhramari Pranayama (B.Pr) have been done earlier to establish scientific relationship. Still more data are needed to get the pin-pointed discussions. On the basis of several data collected during the systematic review work, following discussions are developed.

Make a balance of endocrine system:

Chemical control and coordination of the body activities including growth and reproduction is regulated by hormones. They are also called chemical messengers (Barrett *et al.*, 2019). Pranayama and Dhyana or meditation plays a role in hormonal balance in body (Krizo, 2019).

Enhance immunity:

In nasal nitric oxide (NO) secretion, the role of B.Pr is found effective. The paranasal sinus produces nitric oxide 15-fold higher during humming sound compared to quiet breathing (Weitzberg & Lundberg, 2002). This gaseous chemical is effective in killing intracellular microbial pathogens and also induces the activity of macrophages and T-helper cells (Bogdan *et al.*, 2000). Thus, results indicate the effective role of B.Pr in the enhancement of immunity of our body.

Effect on insomnia:

Insomnia is a big problem of modern day society which is majorly caused by abrupt life style. It may leads to the migraine and other form of severe headache and stress. About 30% of adults suffer from insomnia (<https://aasm.org/>, 2008). B.Pr is found to be a good yogic tool to reduce insomnia and relief our brain (Iyenger, 2012).

Effect on high blood pressure:

High blood pressure or hypertension is a common disease among different age groups. It is also known as a life style disorder that complicates many health problems. It may severely attacks on vital organs like heart, brain and kidney (Sayad, 2011). B.Pr is useful form of pranayama practice to reduce hypertension (Taneja, 2020, Rampalliwar *et al.*, 2011, Pramanik, *et al.*, 2021, Pandey *et al.*, 2010).

Effect on pregnancy:

B.Pr is useful in pregnancy because its humming sound provide inner calm and well being of a pregnant women (www.forceful-tranquility.com/). The clinical report also supported the fruitful use of this pranayama in pregnancy.

Purification of brain:

Nasal humming sound produced during B.Pr may

be considered as brain massage. It increases the purification of cerebrospinal fluid that is found around the brain (Prasad & Matsuno, 2006).

Effect on auditory capacity:

During the B.Pr humming sound waves i. e., low frequency sound are produced by exhalation. It involves the vibration of middle ear bones and inner ear (Prasad, *et al.*, 2007). It is hypothesized that it helps to restore the auditory capacity of a person.

Effect on anxiety:

Anxiety is common issue in daily life of a person. It becomes a problem only when it is a persistent phenomenon in life (Xi, 2020).

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LIMITATIONS

Still more works have to be done to produce authentic data. Researchers may be advised to lead the research work with scientific angle on B.Pr and publish the results.

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Web sites:

- <Bhramari Pranayama | Forceful Tranquility (forceful-tranquility.com)>
<insomnia.pdf (aasm.org)>