

## ROLE OF PRANA VAYU AND UDAN VAYU IN SHVASAN KARMA – A CONCEPTUAL STUDY

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### ABSTRACT

The main aim of *Ayurveda* is to maintain the health of a healthy individual and treating the illness, which is possible in living being. Shvasan karma is the main characteristic of living. In Classical texts, different Acharyas have mentioned Shvasan Karma has the function of Prana Vayu but the detail description of mechanism of respiration is explained by *Acharya Sharandhar*. Here in this article an attempt has been made to explain how Prana vayu and Udana vayu works during the process of respiration. For this literary study, various classical texts have been referred for better understanding.

**KEYWORDS:** *Prana vayu, Udana Vayu, Shvasan karma.*

### INTRODUCTION

*Shvasan karma* (Respiration) is a very important process in body through Which gaseous exchange between the blood and the atmosphere takes place. In *Ayurveda*, though the scattered material about the respiration was present but *Acharya Sharandhar* was the one who described the normal physiology of Respiration elaborately.<sup>[1]</sup> *Uchchhvasa* (Inspiration), *Nishvasa* (Expiration) are the normal functions of *Vayu*.<sup>[2]</sup> *Prana Vayu* and *Udana vayu* plays an important role in the process of respiration. According to *Ayurveda*, *Prana Vayu* controls process of respiration. *Charak* has described channel for *Prana* & named it as '*Pranavaha Strotas*.' The *mula* of *Pranavaha Strotas* according to *Acharya Charak* are *Hridya* and *mahastrotas*.<sup>[3]</sup> In *Pranavayu strotas*, external *Prana dravya* is converted into absorbable form & then it is transported with *Rakta* throughout the body.<sup>[4]</sup>

## MATERIAL AND METHOD

For this study *Ayurvedic* literature is collected from classical text of *Ayurveda*.

### Review of literature

#### Etymological derivation of *prana vayu*

Prana word originates from 'Pra' prefix attached to 'Ana' dhatu with ach suffix. And 'Va' dhatu with suffix 'ta' forms *Vata*, which is responsible for *gati* and *gandhan (utsaha)*.<sup>[5]</sup> Vayu is the synonym to *Vata*. *Prana Vayu* is one among the five *Vata* types, and it is the base of Life. Which holds or sustains *Prana* (life) is *Prana Vayu*.

#### Chief site or location of *prana vayu*

Acc. to Acharya Charak, Location of *Prana Vayu* is *Murdha* (Head), *Uru* (Chest), *Kantha* (Neck), *Jivha* (tongue), *Aashya* (mouth) and *Nashika* (Nose).<sup>[6]</sup>

According Asthang Hridya commentator Arundatta, *Murdha* (Head) is principle location of *Pranavayu*.<sup>[7]</sup>

Acc.to Acharya Sharangdhara, *Prana Vayu* resides in Heart.<sup>[8]</sup>

#### Extended areas of function of *prana vayu*

According Asthang Hridya commentator Arundatta, *Uru* (Chest), *Kantha* (neck) are main extended areas of function of *Pranavayu*.<sup>[7]</sup>

Acc.to Acharya Sharangdhara, *Nabhi* (Umbilicus) is the extended area of function.

Acc. To Dalhan, *Kantha* and *Nashika* are the extended area of *Prana vayu*.<sup>[9]</sup>

#### Chief functions of *prana vayu*

Its function are *Stivan* (Expectoration), *Shvathu* (Sneezing), *Udhgar* (Belching), *Shvasa* (Respiration) & *Aahar adi*. (Ingestion of food) etc.<sup>[6]</sup>

(This adi word indicates other not mentioned function beside ingestion like propagation of food).

According to *Dalhana*, here the action should not be considered restricted to mouth but extended functional areas of *Pranavayu* should be considered as covering all sites mentioned by *Charak*. He also added that *Pranavayu* looks after cardiac affairs.<sup>[9]</sup>

All functions considered together by all compendia can be enumerated & explained as follows:

1) *Pranavalambana*: As long as this *Vayu* is functioning in body, it lives.

External *Prana* gives strength to internal *Prana*. This function is described as “*pranah cha api avalambute*”

If respiration remains normal, life is maintained. This can be explained through *Dalhana teeka*,<sup>[10]</sup> and by *Aadhmalla* in *Sharangadhar samhita*.<sup>[11]</sup>

This function is expressed through respiration movement. It can therefore be derived that *Pranavayu* keeps living person alive.

2) *Swasanam*

*Niswasa* is name given by *Vagbhata* to inhalation of air through nose, He states inhalation is due to *Pranavayu*.

*Praswasa* is exhalation.

Respiration comprises inhalation & exhalation.

*Sharnagdhara*, proposes that process of respiration is due to *Pranavayu*.<sup>[12]</sup>

## **Udana vayu**

### **Etymological derivation of *udana vayu***

*Udana* word originates from ‘*Udh*’ dhatu with *Aan* suffix, Which simply means breathing upward. Or which goes upward.<sup>[13]</sup> As during the process of Respiration, the process of exhalation can be understood as the function of *Udana Vayu*.

### **Chief site or location of *udana vayu***

Acc. to Acharya Charak, Location of *Udana Vayu* is *Nabhi* (Head), *Uru* (Chest), *Gala* (Neck) etc.<sup>[14]</sup>

According Asthang Hridya commentator Arundatta, *Uru* (Chest) is principle location of *Udanavayu*.<sup>[15]</sup>

Acc. To Aa. Sharnagdhara, *Phupphas* are the primary location of *Udan vayu*.<sup>[16]</sup>

### Extended areas of function of *udana vayu*

According Asthang Hridya commentator Arundatta, Nasa (Nose), Nabhi (Umbilicus) and Gala (neck) are main extended areas of function of *Udanavayu*.

### Chief functions of *udana vayu*

Acc. To Aa. Charak, functions of Udana vayu are *Vak-pravriti*, *Praytana*, *Urja*, *Bala*, *Varna* etc.<sup>[14]</sup>

Acc. To Aa. Vaghbhatta, along with above functions, *srotopreenan*, *dhyee*, *dhriti*, *smriti* and *manovibodhana* are also the function of Udan vayu.

Acc. To Dalhan, *Uchchhvasa* is the function of Udan vayu.<sup>[17]</sup> (s.ni.1/14)

From the above verses, we can say that both prana vayu and udana vayu functions during the process of respiration.

Before going into the explanation of mechanism of Respiration, let us understand the different description given in the Brihta-trayi for the Respiration and the description of different organs related to Respiration. *Shvasan prakriya* is not directly described in *Brihat-trayi*, But Respiration problems are mentioned in abnormalities of *Pranavaha strotas*. Pathological features are presented. It is required to assume that respiration; which is devoid of these symptoms is Physiological.

### Organs related with *shvasan prakriya*

*Shvasan* occurs, mainly through *Pranavaha strotas*.

Respiratory tract can be considered as:

- 1<sup>st</sup> part *urdhwa jatrugata* (from nose to pharynx), *Mukhavivara*, *Nasika*, *Kanthanadi*.
- 2<sup>nd</sup> part is from pharynx to lungs. *Phupphasa*

#### Organs

1. ***Nasika* (Nose):** mentioned by Aacharya Sushruta in *Uttar Tantra*, Arundatta has described it as '*phanakriti*' marga. It is described under Pratyanga.
2. ***Mukhavivar* (Oral cavity):** Aacharya Sushruta has described it as *Vaktra*.<sup>[30]</sup> *Prana* moves in mouth cavity. Dalhana has given *Mukha-kuhar* name to *Mukha vivar*.
3. ***Kantha-nadi* (Trachea):** Vaya which enters *nasika* & *mukhavivar* passes through *kantha nadi* & finally enters *phupphusa*.

**4. *Phupphusa (Lungs)*:** *Aacharya Sushtra* has mentioned *hridaya* & 10 *dhamanis* as *mula sthana* of *pranavaha strotas*, while *Charaka* has mentioned *mahastrotas* & *hridaya* as *mula-sthana*. Here, *Phupphusa* are not directly mentioned. But by the name of *hridaya*, we should consider heart & lungs apparatus.

In *Sushruta Sharir*, formation of *Phusphusa* during foetal life is described and said that, *Phupphusa* is formed from *Shonita-phena*.<sup>[18]</sup> It is described as one of the eight *Koshtanga* and it lies left and inferior to the heart. Acc. To Aa. *Sharnagdhara*, *Phupphas* is considered as *Udanavayudhar* and the function of *udan vayu* is *ucchavas*. Therefore, it can be said that *Phupphas* plays an important role in Respiration.

### ***Shvasan prakriya***

*Shrangandhara* has explained *Shvasa prakriaya* in a very peculiar procedure.<sup>[1]</sup>

*Pranapavana*, from umbilical region, after touching *hritkamala* goes out through *kantha*, than it reaches *Vishnupada* & after drinking *Ambara- piyusha*, speedily comes back. Then this *Vayu* carries out the function like *prinana*, *jivana*, & stimulates *jatharanala* or *jatharagni*.

Above verse is word to word translation. But this verse of *Sharngandhara* explains many important steps, systematically, as follow:

The word umbilical region, explains the participation of diaphragm & abdominal muscles in process of respiration. *Nabhi* is umbilicus. In intra - uterine life it is through this umbilicus that baby is attached by a Cord to placenta of mothers & receives food as well as oxygen supply through maternal blood.

The upward direction of exhalation from umbilicus towards the neck escape out in environment and process of expiration occurs.

*Ambarapiyusha* - Dictionary meaning of '*Ambar*' is sky & *piyusha* is nector or milk. Nectar or milk is capable to sustain a person. 'Nectar coming from sky' is virtual meaning of '*Amharpiusha*'. Hence, *Ambahpiyusha* principally explains the intake of oxygen.

Thus, this nectar from the sky i.e. oxygen from the environment is inhaled and the process of inspiration occurs.

*Punarayati*: explains inspiration & expiration.

*Preenan* word denotes the instant refreshing effect due to intake of oxygen.

*Jatharanalam*: stimulation of digestive fire, means stimulation of oxidation process.

According to commentators of *Sharangdhar*:

Commentator interrupts umbilicus denotes entire body.<sup>[19]</sup>

Passing neck it reaches head. In the interior of head, *Yogic chakra* exists; named '*Brahmarandra*' it contains necessary secretion for life.

This concept explains that this *Prana Vayu* from umbilicus through interior of heart passes neck, enters his yogic centre in head, assimilates life sustaining matters existing there & comes back by same path.

The word *Akhili* denotes the whole body from head to toe, this *pranavayu* not only nourishes the body but also help in digestive fire.

From the above context, we can say that, Respiration includes 2 phases:

1. *Uchchhvasa*
2. *Nishvasa*

This both phases have been considered as a vital sign of life and characteristic of *atma*. *Pranavayu* which enters through nose and throat is *Nishvasa*.<sup>[20]</sup> or Entry of external air in living body is called *Nishvasa*.<sup>[21]</sup> Air which is expelled out, is *Uchchhvasa*.<sup>[20]</sup> To expel air from living body is *Uchchhvasa*.<sup>[22]</sup> *Prana* *vayua* and *Udana* *vayu* are responsible for these phases of respiration.

## DISCUSSION

This paper discusses the role of *Prana* *vayu* and *Udana* *vayu* in the process of respiration. In classical texts, respiration function is said to be performed by *Prana* *vayu*. Acc. to *Acharya Dalhan*, Expiration is said to be function of *Udana* *vayu*. *Aa. Sharangdar* has explained the whole process of respiration where he suggested that the *Prana* *vayu* from the umbilicus moves upward for the process of expiration. After reviewing the whole article we can say that, *Prana* *vayu* and *Udana* *vayu* plays an important role in the process of respiration.

## CONCLUSION

- After analyzing the whole scattered description related to *Shvasan karma*, the mechanism of respiration can be understood easily. It can be concluded that before understanding the process of respiration, function of *Prana vayu* and *Udana vayu* must be understood.
- In general respiration is the physiological process occurs in two phases i.e. *Uchchhvasa* and *Nishvasa* through which oxygenated air is inhaled and deoxygenated air is exhaled.
- Inspiration is the main function of *Prana vayu* and Expiration is the main function of *Udana Vayu*.
- *Prana vayu* and *Udana vayu* lies in the thorax cavity, which is concerned with the function of respiration, As *Phupphas* are present in the thorax. So, it can be concluded that *Prana vayu* and *Udana vayu* plays an important role in the process of respiration.

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