

UDANA VAYU-PHYSIOLOGICAL UNDERSTANDING

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ABSTRACT

Vata, the *Yantradhara*, is responsible for all functions in our body. *Udanavata* is considered as *Pavanottama*. It is a *KantasthaVayu* (around the throat region) essential for performing *Bhashita*, *Geetaadi karma* (speech, singing) etc: It cooperates with *Praanavayu* for performing most of its functions. Both *Praana* and *Udaana* are needed for maintaining the normal functions as well as the homeostasis of upper part of the body.

Keywords: *Udanavata, Praanavata, Kantasthavayu, Bhashitageetaadi karma*

INTRODUCTION

Vata in its normal state makes all the organs in our body perform their functions. Hence it is called by the name *Yantradhara*.¹ It is considered as the *Pr na* (life) of all individuals.² It is responsible for the movement and functions of *Pitta* and *Kapha* just as the wind propels the clouds to different locations.³ In *Puranas* it is mentioned that *Vayu* is the *Prana* (vital part for life), *Sugha* and *Ayu* of an individual.⁴ From different contexts we will understand the different functions of *Vata* such as *Vibhutwat* (present all over the body) , *Asukaritwat* (quick in action), *Balatwat* (it is strong in pitta and kapha), *Anyakopanaat* (it is vitiates other doshas), *Swatantra* (independent), *Bahurogatvat* (leads to several diseases)etc: It can control both *manas* (mind) and *Indriya* (sense organs) and helps in the enjoiment of their particular *Indriyarthas*. *Vata* coordinates the functions of *Dhatu*, *Mala* and brings different body parts together in their position. On the basis of *Sthanas* (locations)and *Karmas*(functions) *Vata* is classified into mainly five types such as

Pr na, Ud na, Vy na, Sam na and Ap na.⁵

Aim: The main aim of this article is to understand the various functions of *Udanavayu*. The *Vayu* that moves upward around the *Kantadipradesa* (throat region) and makes other parts or organs to perform their functions is the *Udanavata* and it is most important than anyother. The term *Pavanottama* has been used for describing *Udanavata*.⁶ It is considered as the *Kantastha Vayu*⁷ (around the throat region).

Location of UdanaVayu: Most Acharya have the same opinion that *Udana* is located in *Uras*(chest). There is another opinion that it is located in *Puphusa* (Lungs), which is in *Urahpradesha* only⁸. Other *staanas* are considered as its *Sancharastaa-nas*(important region it covers while moving), such as *Kanta* (throat), *Nasika* (nose) and *Nabhi* (around umbilicus)⁵.

Functions of UdanaVayu: Helps in *VakPravruti* (to speak or in speech mechanism), *Prayatna* (efforts), *Oorja*(provide energy), *Bala* (strength), *Varna* (helps in pronouncing different alphabets).⁵ They

helps in *Bhaashitageetadi karma* (singing , respiration etc) and is responsible for several *UurdhvaJatrugataRogas* (diseases affecting neck and above neck).⁶ *Srotapreenana, Dhi, Dhriti, Smruti, Manobodhanaadi karma* (functions of Mind such as consciousness, memory, talent etc).⁹

Here we observed that the *Sthaana* mentioned for *Udana* are almost similar to that of *Prana*. The *Sthaana* for *Prana* is *Moordha* (head) and its *Sancharasthaana* (passes through) are *Kanta* (neck), *Jihwa* (tongue) *Nasika* (nose) and *Urah* (chest)¹⁰. The functions of *Prana* are *Shteevanam* (spitting), *Kshavadhu* (sneezing), *Udgaara* (belching), *Swasa* (inhalation), *Annapravesana* (deglutition), *Budhi*, *Hrudaya* and *Mano dharana* (maintains the normal functions of intellect Heart and mind) etc.¹⁰ The major difference between *Prana* and *Udana* is in their functions. Functions of *Pranavayu* indicates its direction is from outside towards inside as well as from inside towards outside of the body. It can directly act on *Annapravesanadi karma* which is towards inside as well as on *Shteevana, Udgaara* etc: functions like expelling out, which is towards outside. *Udana* helps in exhalation, speech, singing, etc: in which the *Vayu* moves outside.⁶ Another difference is that *Udana - UrdwamUpaiti* (moves upward) while *Prana - Urdwampratigachati*¹¹ (moves upward, crosses the *kanta* and reach upward in head region). For *Udana*, *Uras* is the *Avasthitasthaanam* and for *Prana*, *Uras* is the *Sancharasthaanam*. All these functions can be enumerated and explain like this

Uchwasa Karma: *Udanavayu* directs itself upwards through *Uras*. When it is exhaled through *Nasa* (nose), person realizes it. *Udana* in conjugation with *Prana* interns *Svasanakarma* (respiration)

Vakpravrutti: Route of *Udanavayu* includes *ura, kanta, mukha, nasa* etc:

through which the functions *bhashita, geeta* etc: occurs ,that is they helps in Speech mechanism or in Sound mechanism The coordinated action of *Atma* (soul), *Budhi* (intellect) and *Mana* (mind) stimulate *Jataragni* , which again stimulate the upward movement of *Vata* through the *Urapradesha* and produces *Sabda* (sound) .This *Sabda* due to the involvement of *KantadiAvayavas* (organs involved in speech-tongue, lips, palate etc:) *Varna Samamnaya* (meaningful words) are uttered. *Susruta* mentioned different *Varna* (alphabets) that can be spoken with the help of different organs like lips, teeth, tongue etc. and the *Sabda* is created when this *Vayu* flows in spaces and different organs come in contact with such moving air¹². During inhalation, air flows through *Nasa* (nose), *Talu* (palate) and finally reaches the *Uras* . During exhalation, the air from the *Uras* flows out and comes in contact with *talu, danta, osta, jihwa* finally spoken words are formed.

Considering the *Vakutpatti* as Speech Mechanism, we can explain the Physiology of Speech in brief.

The stages of Speech mechanism are:-

Breathing stage

Phonation stage

Resonation stage

Articulation stage

Breathing stage:- During Speech both inhalation and exhalation takes place, for maintaining the life. This is called Phonic respiration. Here inhalation time is reduced while exhalation time increased to 5-10 sec and it can go up considerably.

Phonation stage:- During speaking, voice is produced when the expiratory air streams from lungs, and goes up through Trachea, to the Larynx. The rapid vibration of vocal folds in the Larynx results in phonation. We can feel this vibration when we talk by

holding index finger and thumb to our larynx.

Resonation stage:-Resonation is the process of voice amplification and modification.

Normally voice produced in phonation is weak. It becomes strong and rich only when amplified and modified by human resonators and they are:-Upper part of larynx, oral cavity, pharynx, nasal cavity

Articulating stage:-Articulation occurs when the tone produced in the larynx is changed into specific sounds. This is the result of movement of articulators towards the points of articulation. Lips, Teeth, Hard palate, Soft palate and Uvula help in articulation.

There are a number of types of phonation. The vocal folds can operate in a number of different ways, resulting in different types of phonation such as Murmur, creaky voice, whisper etc:

Prayatna: It can be the physical and mental effort to do something. Whatever imagined in mind, such things are made into function through the effort of *Udanavayu* or *Udanavayu* induces a person to do his work¹³

Urja: *Urja* can be Energy. The Meaning of *Urja* explained in *Chakradatta* is *Balavarnanishpaadanam*(something that provide Bala and Varna). *Urja* provide *Preenanam* (nourishment) to the body .*Udanavata* helps in providing proper nourishment or *Preenanam* and there by *Bala, Varna* etc:

Bala: *Bala* is strength.*Udana* provide *bala* to all *dhatu*s for their proper circulation .It helps in the exchange of waste products in the form of CO₂, water etc. through respiration.

Varna: *Varna* can be the luster of skin or it can be the different alphabets spoken during the air flow through oral and nasal orifices. *Udana* ,is responsible for *dhatu*

circulations. Hence it can nourish the skin and provide luster .

Dhi, Dhriti, Smriti: They are the special functions of *Manas*(mind). *Manas* situated in *Hridaya*. So *Smriti* can be connected with the functions of *Ud navayu*.

SrotaPreenana: *Preenanam* means *Tarppanam* (Nourishment) .*Udanavayu* enters different *Srotas*(channels) for performing different *Karmas* like *Indriyaprasadanam* and provide *preeti* to *Manas*. From the *Ahararasa*, the first *Dhatu Rasa* will be formed, from which *uttoratharadhatu* get originated. Their formation and circulation is assisted by *Udanavayu* by providing nutrients to *Srotas* of particular *Dhatu*s.

DISCUSSION

Vata is necessary for doing all the *karma* of our body. *Udana* does the functions related to *Urah and Manas*. It has been mentioned that *Udana* has an upward motion. *Pranavata* also has similar upward movement. But it crosses the *Kantapradesha* and reaches the *Moordha*. This is the main difference between both *Udana* and *Prana*. Both are necessary for performing all the *UrdwaJatrugata* functions. Mainly *Udana* acts as a stimulant for *Prana*. Its *Sanchaarasthana* is similar to *Prana* except in *Shiras*. Both cooperate with each other for performing their own *Karma*. Both play an important role in respiration, speech and in providing *Bala, Urja, Preenana* etc: Both helps to control the *Manas* and its functions, since *Manas* is situated in *Hridaya*. *Hridaya* can be *UroHridaya* or *ShiroHridaya*.

The simultaneous actions of *Prana* and *Udana* co-ordinate the functions of *Manas*, *Swasanadi karma*, *Annapravesanadi karma* etc: As if round shaped earthen pots are kept one on the top of other, their location in relation to house is similar, but each pot has different existence and different

functions. The location and areas of functions of *Vayu* are almost same but their functions are different. So it is clear that both are essential for maintaining the normal functions as well as the homeostasis of mainly the upper part of the body.

CONCLUSION

Functions of *Udana* are varied and not confined to any particular part or system. It is primarily responsible for *Vagutpatti* and its functions can be co-related with the functions of Glossopharyngeal nerve, Vagal nerve, Recurrent laryngeal nerve, Phrenic nerve. So diseases affecting these nerves and the associated parts can be managed by the management of *Udanavyu*. Hence it should be protected along with other doshas.

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