

Mechanism and Efficacy of Yoga Practices in Patient with Dysphonia-A Case Report

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Abstract:

Dysphonia refers to disorder of voice or hoarseness of voice. It can be associated with a feeling of unease or scratchiness in the throat. It is also a symptom of the vocal folds of the larynx. It may be caused by an upper respiratory infection, cold, or allergies etc. In this case Dysphonia is caused by chronic laryngitis, a condition where the voice box is swollen, irritated, and/or inflamed, which resulted in the loss of voice since 3 months. This started as the post effect of viral infection. Patient joined Individual *Yoga* Therapy session at Morarji Desai National Institute of Yoga. The *Yoga* protocol designed for the patient has given a great emphasis on strengthening as well as improving the functioning of vocal cords. After three weeks of *Yoga* Protocol Practice patient was able to talk clearly, hoarseness of voice and pain were reduced significantly. The influence of the traditional practices of *Yogasanas* and *pranayama* can be studied scientifically.

Key words: Dysphonia, Loss of Voice, *OM* Chanting, *Yoga* Therapy,

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Introduction:

Dysphonia is a voice disorder, characterized by the hoarseness of voice, sore and dry throat. Hoarseness means difficulty in producing the sound while trying to speak or a change in the pitch or loudness of voice. The voice may be weak, scratchy or husky. Common causes are trauma of vocal cords, paralysis of vocal cords, infection of larynx, and hypothyroidism i.e. due to structural and / or functional causes.^[1]

Many patients experience dysphonia as a natural part of the aging process, it can be a symptom of a serious underlying condition.^[2] Clinicians need to recognize that when patients present with dysphonia for longer than four weeks and/or when it is associated with risk factors or other concerning signs and symptoms, further evaluation is warranted.^[3]

Case Report:

A 56 years old man came with chief complaint of loss of voice. The onset of disease started 3 months ago with the viral infection which gradually progressed into pneumonia and laryngitis. Hoarseness of voice, difficulty while speaking with painful attempts were also experienced. Patient had taken allopathic treatment and had some symptomatic relief earlier. There was no previous history of any such infection or external injury to the vocal cords. Patient presents with no family history

of any such infections. He also complains of poor appetite, sluggish digestion and occasional disturbed sleep. He also presents with normal bowel movements and no addictions of any kind.

Timeline:

Patient was instructed to follow complete guidelines during whole course of Yoga Therapy from the first day itself. He was treated with a 3 weeks *Yoga* Protocol. The timeline of the *Yoga* protocol is given below in Table 1.

Table-1: Yoga Therapy Introduced:

Week	Time Period	Yoga Therapy Introduced
First	22-03-2021 to 28-03-2021	Focused on Yogic Sukshma Vyayama, Breath with Awareness
Second	29-03-2021 to 04-04-2021	Focused on specific Asanas and Pranayama with more holding time and awareness
Third	05-04-2021 to 11-04-2021	OM Chanting was practiced with more awareness on throat

Table-2: Daily Yoga Protocol for Dysphonia (45 minutes):

Practice Title	Practice Name	Time Period / Repetition
Sukshma Vyayama	Uccharan Sthal तथा Vishudh Chakra Shudhi	2 times each with awareness on breathing (15 min)
	Buddhi तथा Dhriti Shakti Vikasaka	
	Medha Shakti Vikasaka	
	Griva Shakti vikasaka - 1,2 & 3	
Asanas	Tadasana	2 times each (10 min)
	Trikonasana	
	Simhasana	
	Setubandhasana	
	Ardha Ushtrasana	
	Shashankasana	
	Marjori asana	
	Bhujangasana	
	Makarasana	
Pranayama	Ujjayi	15 times (5 min)
	Bhramari	20 times (10 min)
Meditation & Relaxation	OM Chant -“AA” , “OO” and “MAAA”	5 min

Table 3: Results showing effect of Yoga Practices in Dysphonia condition after one week

Complaints	Before Yoga Therapy	After one Week of Yoga Therapy
Difficulty while speaking	++++	+++
Intensity of Pain	+++	++
Hoarseness of Voice	++++	+++
Clarity of Voice	+++	++

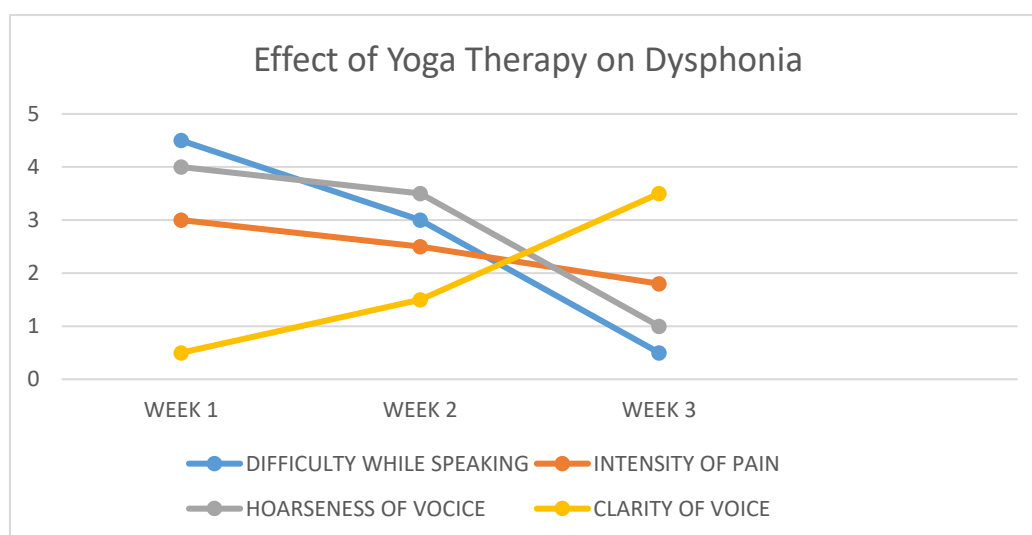
Table 4: Results showing effect of Yoga Practices in Dysphonia condition after two weeks

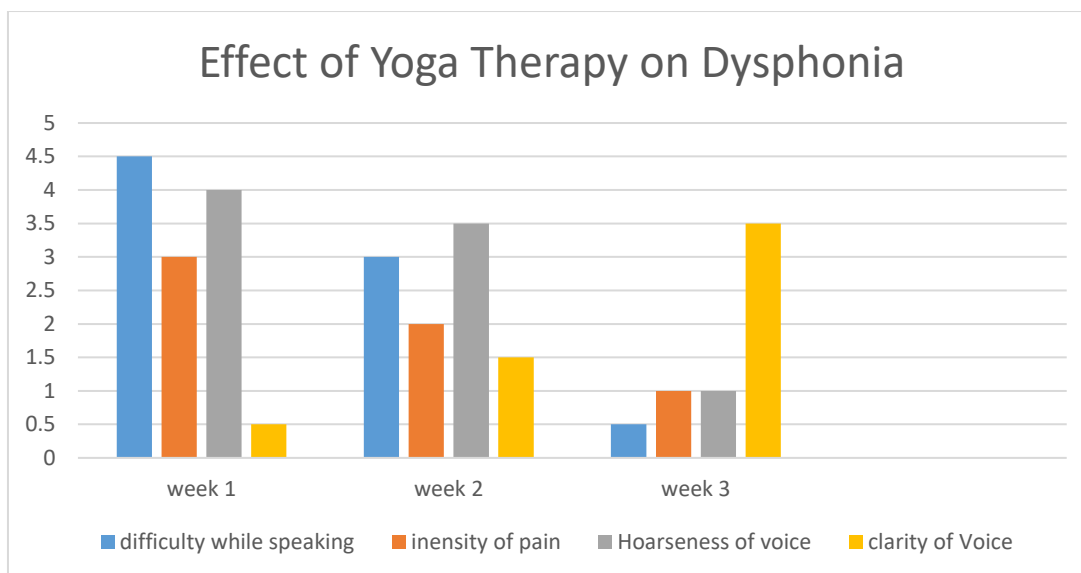
Complaints	After 1 st week of Yoga Therapy	After 2 nd Week of Yoga Therapy
Difficulty while speaking	+++	++
Intensity of Pain	++	+
Hoarseness of Voice	+++	++
Clarity of Voice	++	+

Table 5: Results showing effect of Yoga Practices in Dysphonia condition after three weeks

Complaints	After 2 nd week of Yoga Therapy	After 3 rd Week of Yoga Therapy
Difficulty while speaking	++	-
Intensity of Pain	+	-
Hoarseness of Voice	++	+
Clarity of Voice	+	-

*Reference scale: - Clear, + Minimal, ++ Mild, +++ Moderate, +++++ Severe


Graph 1: Effect of Yoga Therapy on Dysphonia



Graph 2: Effect of Yoga Therapy on Dysphonia

Yogic Management:

An Individual *Yoga* Protocol was practiced under the supervision of *Yoga* therapist is as follows:

Dietary & Life Style Modifications followed from day one itself:

1. Drinking warm water empty stomach soon after getting off the bed.
2. Avoiding water intake while having food and soon after food.
3. Drinking warm water after one hour of every meal.
4. Avoiding all cold food articles like ice creams, curd, cold water etc.
5. Keeping diet light, especially at night.

Follow up and outcomes:

- Patient visited *Yoga* Out Patient Department daily at Morarji Desai National Institute of *Yoga* for three weeks for regular follow ups
- He had been regularly updating his status through phone too

Management:

Yoga protocol was initially focused on being aware about breathing in simple *Yogic Sukhsma Vyayamas*, as listed in Protocol to

release the stress / stiffness from his thoracic & cervical spine. This was subsequently followed by simple *Yogasanas*, *Pranayama* and relaxation. The protocol was further emphasized by the practice of *Ujjayi Pranayama* and *OM* chanting. The *OM* chant was introduced in split letters as “Aaaaa” “Uuuu” and “Maaaaa” in deep, prolonged and repeated manner. Patient was instructed to practice at home during weekends, and also to avoid spicy food stuffs in his diet.

Results:

Yoga protocol practice during the first had helped relieving the stress / tension from upper back of the patient. He responded well to the practice and felt little relief from the pain while speaking and had reduced hoarseness of voice. He could utter few words clearly like his name. The results are shown in Table.1

The second week practice had reduced intensity of pain and strain while speaking, his voice was much clearer (better than first week) and hoarseness was reduced to great extent even. The results are shown in Table.2

The third week practice has shown a stable recovery from the symptoms and his voice was clearly audible. There was no more pain and any kind of difficulty while speaking. Though the hoarseness of voice was slightly

experienced. The entire recovery is recorded on video showing before and after results evidently. The third week results are shown in Table 3.

A graphical representation of results observed after 3 weeks of *Yoga* Therapy in dysphonia is illustrated in Graph 1 and Graph 2.

Discussion:

Yoga protocol for the patient was focused on improving the blood circulation around the throat area. Simple *Yogic Sukshma Vyayama* practices like *Ucharan Sthal* *tatha* *Vishudh Chakra Shudhi*, which improves blood supply around the vocal cord would probably have helped the patient clear his throat and breathe better by removing the phlegm too, in association with *Buddhi* *tatha* *Dhriti Shakti Vikasaka* and *Medha Shakti Vikasaka*, as during its practice the exaggerated breathing stretches the ligaments and improves blood circulation.^[4] Neck exercises i.e. *Griva Shakti Vikasaka* - 1,2 & 3 make the neck muscles flexible, strong and probably do improve clarity of voice, is said to be good for singers, patients with thyroid malfunctions and for people with loss of voice.^[5]

Patient practiced *Simhasana*, *Ardha Ushtrasana* and few more *Yogasanas* which help in smooth functioning of the lungs and diaphragm, which are tightened up by the emotional tensions. *Simhasana* (lion posture) relieves the tension from chest and diaphragm and helps to reduce the stuttering. It is an excellent asana for the eyes, nose, ears, mouth and the throat. It develops a strong and beautiful voice. *Ushtrasana* (camel pose) stretches the front of the neck toning the organs in that region.^[6] *Ujjayi Pranayama* when practiced by the patient gave soothing effect specifically on throat and voice box, it supports and strengthens the muscles of epiglottis, which helps in reducing swelling and thus cultures the voice.^[7] The gradual improvement in the quality of the voice of the

patient can be correlated with the quality of voice singers have to maintain after prolonged usage or continues singing as in the article *Yoga for Voice improvement* which states that very useful pranayama practice for singers in particular are *Ujjayi* (closed lips and contracting throat) and *Bhramari*. It was also observed that asana practices were very useful to stimulate and strengthen the vocal muscle in the study.^[8] After *Pranayama*, *OM* chanting practice made patient quite relaxed, the results were quite encouraging in the above study. *Pranayama* and chanting in voice disorders, as provided a number of benefits, due to the vibrations /resonance produced by chanting, the nervous supply to the throat area is improved. The stamina and strength of the voice can be improved.^[9]

A study which was conducted to study the effect of yogic practices on aerodynamic measures in two groups. There were two groups yoga practitioners and another non-practitioner. The result of the study showed that all yoga practicing individuals were significantly benefitted as compared to non-yoga practitioners. The vibrations and modulations improve the voice quality if *Yoga* practiced regularly.^[10] 'Om' chanting can strengthen the lung capacity, removes the stress.

In another study it was reported that *Bhramari Pranayama* is very effective to improve phonation duration, average fundamental frequency and other voice parameters. The result exhibited the significant improvement also in acoustic and aerodynamic parameters of voice. It shows that some of the specific pranayama practice are playing vital role to improve voice disorders as seen in the studies.^[9]

The voice improvement in this patient is evidently a mile stone in exploring the potential Yogic Practices do have as Voice Therapy. It can be further stated that more

scientific studies are required to conclude the role of *Yoga* in Dysphonia condition.

Conclusion:

The current case report was concluded that patient had been relieved from the dysphonic condition within three weeks by the regular practice of *Yoga* Protocol designed for him. The report also provides the mechanism-based affectivity of yogic practices in the chronic voice disorders. The case contributes to the researcher and therapist who are engaged in the management and observation of different disorders related to the voice and larynx.

Limitations of the study:

The current case report is prepared only on one patient and researchers were not having full control over the routine of patient. Moreover, self-reported data is included in this case as reported by patient.

Patients Written Consent:

The written consent had been taken from the patient before intervention of all yogic practices and the treatment procedures.

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References:

1. K Sembulingam. Essentials of Medical Physiology. 8th Editio. Jaypee Brothers Publishers; 2019. 1022–23 p.
2. Reghunathan S, Bryson PC. Components of Voice Evaluation. Otolaryngol Clin North Am [Internet]. 2019;52(4):589–95.
3. Stachler RJ, Francis DO, Schwartz SR, Damask CC, Digoy GP, Krouse HJ, et al. Clinical Practice Guideline: Hoarseness (Dysphonia) (Update) Executive Summary. Otolaryngol Neck Surg [Internet]. 2018;158(3):409–26.
4. Swami Dharendra Bhramchari. Yogic Sukshma Vyayama. 2nd Editio. New Friends Colony, New Delhi: Dharendra Yoga Publication; 1980. 2–20 p.
5. Mattioli F, Bergamini G, Alicandri-Ciufelli M, Molteni G, Luppi MP, Nizzoli F, et al. The role of early voice therapy in the incidence of motility recovery in unilateral vocal fold paralysis. Logop Phoniatr Vocology [Internet]. 2011;36(1):40–7.
6. H.R. Nagendra. Pranayama, The art & Science. Bangalore: Swami Vivekananda Yoga Prakashana; 2005. P-106
7. https://www.naturaltherapypages.co.nz/article/Yoga_for_Voice_Improvement.
8. Rao TI, Nagendra & HR. The Role of Yogasana and Pranayama Techniques in Correcting the Functional Disorders of Voice Production. Int J Res Humanit Arts Lit. 2014;2(7):159–66.
9. Manjunatha U, Bhat JS, Radish KB, Bajaj G, Shruthi P, Suresh Nayak P, et al. Effect of Bhramari Pranayama on the Acoustic and Aerodynamic Parameters of Voice in Normophonic Females. Evidence-Based Complement Altern Med [Internet]. 2018;2018:1–7.
10. H.R A, Jog D, Kumar A K. Effect of practicing Yoga on Aerodynamic measures of Voice. Int J Curr Res Physiol Pharmacol [Internet]. 2020;4(3):1–4.

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