



## HARMONY IN SILENCE: UNVEILING THE SPECTRUM OF DYSPHONIA KNOWLEDGE AMONG PATIENTS IN TERTIARY HEALTHCARE SETTING, KOCHI.

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### ABSTRACT

**Background:** Millions of people suffer from voice problems and lost their careers due to their voice disturbance. Many researchers have concentrated on people with 20% voice problems, and they have conducted programs for professional voice users to protect their voice from misuse, overuse, and abuse. Reviewing that report, the investigator planned to assess the knowledge regarding dysphonia among patients attending selected hospitals in Kochi. The objectives were to assess the knowledge regarding dysphonia among patients attending a selected hospital, and the secondary objective was to assess the association between the knowledge and selected socio-demographic variables. **Method:** The study was conducted in the speech pathology and audiology department of a selected Tertiary care Hospital in Kochi, Kerala. 100 samples were selected by using the probability purposive sampling method. The socio-demographic variables were gathered by self-reporting. The knowledge was assessed by using a structured questionnaire. **Result:** The findings revealed that among 100 subjects, 39% have good knowledge, 46% have satisfactory knowledge, and 15% have no knowledge regarding dysphonia. **Conclusion:** the study concluded that among the 100 samples, most patients do not have adequate knowledge and preventive measures to protect their voice from misuse, overuse, and abuse and avoid further complications regarding dysphonia.

**KEYWORDS:** Knowledge, Risk Factors, Dysphonia, Voice Disorders.

### INTRODUCTION

Voice reflects an individual's persona and physical well-being. It is a dynamic instrument capable of producing many complex and intricate sounds. Many people use their voice as their profession or their identity, such as Singers, teachers, doctors, lawyers, nurses, salespeople, and public speakers are among those who make great demands on their voices. Voice is one of humans' most important instruments for expression and communication. The most common consequences of voice problems are missing work and affecting job performance, social activities, and emotions. Lack of basic knowledge of voice, incorrect use, and a defective vocal model can lead to occupational dysphonia. Vocal hygiene education effectively creates awareness, reduces vocal abuse, and prevents the acquisition and progression of voice problems among patients.

The major Etiology and risk factors of vocal problems include upper and lower respiratory infections, specific injuries, inflammation caused by acid reflux and irritation, vocal overuse and abuse, vocal nodules or certain oncological conditions, neuromuscular diseases, and psychogenic conditions due to psychological trauma. We must remember that most vocal issues are resolvable and can be well-treated if diagnosed in the early stage. Vocal abuse/misuse is any behavior, injury, or irritation that strains the vocal folds. Usually, it occurs due to excessive talking, throat clearing, exposure to inhaling irritants, cigarette smoking, excessive screaming, or gelling. Vocal misuse is inappropriate voice usage, including excessive speaking too loudly at the top of one's voice or low pitch. Frequent vocal abuse and misuse can harm the vocal folds and cause temporary or permanent changes in the function of vocal cords, voice quality, and possible mislaying of voice.

Dysphonia, which is when voice doesn't sound right, happens because there are problems with how vocal cords move. This can be because the muscles in throat are too tight, vocal cords don't close properly when talk, vocal cords change in size, or have a growth or lump on vocal cords. One common thing that can make vocal cords lumpy is using voice too much.<sup>[1,2,3]</sup>

Smoking is the main thing that can lead to a kind of throat cancer called laryngeal cancer. The most common type of throat cancer makes up 85-95% of all throat cancers, and it starts on the vocal cords. This cancer can mess up how vocal cords vibrate, and this can get worse as the cancer grows and affects other parts of vocal cords.<sup>[4,5,6]</sup>

The Department of Speech Pathology and Audiology has a significant role in identifying the issues related to voice problems. Voice-related treatment is still an emerging field in India; medical experts extensively study voice therapy, voice analysis, voice culture, and vocal dynamics to correct speech disorders in patients and enhance delivery style and voice projection among professional voice users. The best method of preventive care for voice users is education and training. Along with voice lessons, proper aerobic exercises, and exercise of the abdominal and back muscles for voice support, training includes proper body care by giving it sufficient water, nutrition, and sleep. Be sensitive to your voice, and if you notice anything unusual, go on complete vocal rest. Vocal hygiene education emphasizing the importance of voice care concerning behaviors, lifestyles, and diets effectively reduces vocal abuse and prevents the progression of voice problems in teachers. This is an effective method of learning and empowering patients to acquire knowledge, skills, and attitudes to reduce vocal abuse and prevent the progression of voice problems.

### BACKGROUND OF THE STUDY

Millions of people have voice problems and lost their careers due to their voice problems. Studies have concentrated on people who are having 20% voice problems. They conducted many programs for professional voice users to protect their voice from misuse, overuse, and abuse. Researchers found improvement in 10% invoice quality and 100% in their physical well-being.<sup>[7]</sup> The study aims to assess knowledge regarding risk factors and prevention of voice disorders among OPD patients in a selected hospital, in Kerala.

A cross-sectional telephone survey with a random sample of 1,326 adults, ranging in age from 20 to 66 years, was conducted in the U.S. Questions were addressed within three areas related to voice disorders: prevalence, potential risk factors, and occupational consequences/effects. The study defined a voice disorder as “any time the voice does not work, perform or sound as it normally should so that it interferes with

communication.” It was found that 29.9% of the participants had a voice disorder during their lives, and 6.6% reported a voice disorder at the time of the survey. The authors also identified factors that increased the risk for voice disorders, i.e., gender (women), age (40-59 years), voice use patterns and vocal demands (to talk for an extended period, talk quietly, talk loudly), chemical exposure, and frequent cold/sinus infections. Of the participants, 4.3 % were limited or unable to do specific tasks at work because of voice problems, 7.2% reported one or more days of voice-related absence from work, and 2% reported being absent more than four days due to voice disorder.<sup>[8]</sup>

A study conducted in Iraq shows that out of 94 subjects with COVID-19, 21 were reported with dysphonia, which indicates a 22.3% prevalence. This recommends checking the dysphonia among the common crowd after the pandemic periods.<sup>[9]</sup>

### MATERIALS AND METHODS

The research approach used in the study was quantitative, and the research design was a survey design. The setting of the study was the speech pathology and audiology department of a selected hospital in Kerala. The sample size for the study was 100 samples, and a probability purposive sampling technique was used for selecting the samples. The researchers developed and validated a structured questionnaire to assess the knowledge regarding dysphonia among patients attending the speech pathology and audiology department during data collection through telephonic interviews. The split-half method was used to assess the tool's reliability, and it was found reliable. Descriptive and inferential statistics were used to analyze the data. Ethical clearance was obtained from the Institutional Review Board of the tertiary care hospital, Kochi. Formal permission was obtained from the respective head of the speech pathology and audiology department to conduct the study—the informed consent from the subjects before data collection. The confidentiality of the data collected was ensured.

#### Description of the research tool

Structured Questionnaire on knowledge regarding the risk factors and prevention of voice disorders

#### Section I: Demographic Data.

This section consists of baseline Performa on variables like Age, Gender, marital status, qualification, profession, years of experience, average throat strain hours per day, interfering factor, respiratory allergy, and trained in voice program.

#### Section II: knowledge regarding dysphonia:

This section consists of 30 items regarding knowledge of the risk factors and prevention of voice disorders, which include the anatomy and physiology of the larynx, the risk factors of dysphonia, and voice pathology. Prevention and management dysphonia. In the 30 questions, the knowledge score is categorized as 20-30

has good knowledge, 15-20 is satisfactory knowledge, and less than 15 is categorized as no knowledge.

Section 1: Distribution of sample details based on the socio-demographic characteristics.

**RESULTS**

The results of the study are organized under the following headings.

**Table 1: Distribution of sample details based on the socio-demographic characteristics.**

Serial no	Demographic variables	Frequency	Percentage
1	Age		
	18-30	21	21%
	31-40	8	8%
	41-50	33	33%
	Above 51	28	28%
2	Education		
	a. SSLC	20	20%
	b. Pre-degree	22	22%
	c. Degree	33	33%
	d. Professional course	16	16%
	e. others	8	8%
3	Occupation		
	a. Yes	52	52%
	b. No	48	48%
4	Area of living		
	a. Urban	43	43%
	b. Rural	56	56%
5	Previous knowledge		
	a. Yes	32	32.7%
	b. No	67	67.3%

Table 1 shows the details of samples based on socio-demographic variables. From the above results, among 100 samples, 21% are in the age group of 18-30, 8% are in the age group of 31-40, 33% are in the age group of 41-50, and 28% are in the age group above 51. Among 100 samples, 20 are educated up to SSLC, 22 are up to pre-degree, 33 are degree, 16 are professional courses, and 8 are other courses. Among 100 samples, 52 are employed, and 48 are unemployed. Among 100 samples, 43 are living in urban and 56 are living in the rural area. Among 100 samples, 32 had previous knowledge of dysphonia, and 67 did not have any knowledge regarding dysphonia.

Table 2 shows the distribution of the males and females in the study. From the data collected, we conclude that in the study conducted, 53.5% were females and 46.5% were males.

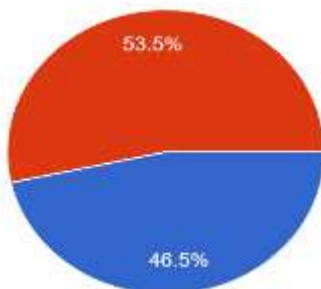
**Table 2: Distribution of the males and females in the study conducted.**

Age	Frequency	Percentage
Males	53	53.5%
Female	47	46.5%

**Table 3: Distribution of patients based on knowledge regarding dysphonia.**

Characteristics	Frequency	Percentage
Good knowledge	39	39%
Satisfactory knowledge	46	46%
No knowledge	15	15%

Table 3 shows the distribution of patients based on knowledge regarding dysphonia. From the data collected, about 39% of the people have good knowledge, 46% have satisfactory knowledge, and 15% have no knowledge.



**Table 4: Degree of Association between sociodemographic variables and knowledge regarding dysphonia.**

SI No	Demographic variables	average	good	chi	df	P value
1	Age					
	18-30	31.6%	68.4%			
	31-40	46.4%	53.6%	<b>1.303</b>	<b>2</b>	<b>.667</b>
	41-50	15.5%	84.6%			
	Above 51	0.0%	100%			
2	Education					
	a. SSLC	23%	76.9%			
	b. Pre-degree	22.5%	65.8%	<b>1.004</b>	<b>2</b>	<b>.605</b>
	c. degree	30%	58.6%			
	d. Professional course	50%	75.9%			
	e. Others	12%	85%			
3	Occupation					
	c. Yes	70	89.2%	<b>0.21</b>	<b>1</b>	<b>.121</b>
	d. No	30	100%			
4	Area of living					
	c. Urban	34.3	65.7	<b>0.32</b>	<b>1</b>	<b>.108</b>
	d. Rural	32.1	67.9			
5	Previous knowledge					
	f. Yes	75%	95%	<b>0.45</b>	<b>1</b>	<b>0.125</b>
	g. No	45%	85%			

The above table 4 shows the association between socio-demographic variables and knowledge regarding dysphonia. The chi-square value of age shows 1.303 with df 2 and p-value 0.667. The chi value of education shows 1.004 with df 2 and a p-value of 0.605. The chi value of occupation is 0.21 with df 1 and p-value 0.121. The chi value of the area of living shows 0.32 with df 1 and p-value 0.108. The chi value of previous knowledge is 0.45 with df 1 and p-value 0.125.

## DISCUSSION

This survey assessed the knowledge regarding dysphonia among the patients attending selected hospitals in Kochi. This study's primary objective was to assess the knowledge regarding dysphonia among patients attending a selected hospital, Kochi. The results show that among the 100 samples, 39% had good knowledge of dysphonia, 46% had satisfactory knowledge regarding dysphonia, and 15% did not have any knowledge regarding dysphonia. It is supported by a study conducted in India, where 49% of teachers reported voice problems.<sup>[10]</sup>

Based on the most recent research, the main goal of the developed guideline is to enhance the standard of care for patients who have dysphonia. When expert consensus is used to close gaps in the evidence, it is clearly stated and accompanied by a thorough evidence profile for transparency. The guidelines' specific goals are to minimize harm, achieve optimal health outcomes, and lessen unwarranted variances in care.<sup>[11]</sup>

The Effectiveness of the Voluntary Health Association of Punjab in educating teachers on vocal hygiene was evaluated in a Study published in 2008. Significant outcomes of these VHAPs included an increased

awareness of the need to take voice rest, and avoid throat clearing, shouting, and smoking. Also, they were educated on the need for classroom modification strategies such as minimizing background noise, reducing speaker-listener distance, and avoiding chalk dust. There was also increased awareness of the need for diet modifications such as drinking adequate water, avoiding spicy and fried food, regularizing meals, and sleeping immediately after dinner. However, it is necessary to evaluate the 'impact' of such awareness in daily routines to gauge the success and effectiveness of VHAPs.

A study conducted in the US states that one out of every 13 individuals seeking primary care had voice problems (dysphonia), leading to substantial difficulties in their daily functioning, lower quality of life-related to their voice, and higher levels of depression. The study identified factors that increase the risk of voice problems and decreased voice-related quality of life, which could help recognize patients at risk for dysphonia. However, obstacles hindered people with voice issues from receiving proper evaluation and treatment. It is unclear whether improving the methods for screening for dysphonia would result in better outcomes and lessen the societal impact, and this requires further investigation.<sup>[12]</sup>

This study, with a limited number of participants, may not represent the broader population accurately. As it is a Cross-sectional survey collected at one point in time, it is challenging to establish cause-and-effect relationships.

This study recommends conducting a public health campaign to raise awareness about voice care and preventing voice disorders. A large-scale epidemiological study can be conducted to determine the

prevalence of dysphonia in different populations and demographic groups.

### CONCLUSION

Vocal hygiene education emphasizing the importance of voice care concerning behaviors, lifestyles, and diets is an effective method to reduce vocal abuse and prevent the progression of voice problems. The study was aimed at assessing the knowledge regarding dysphonia among patients attending selected hospitals in Kochi. Among the data analyzed, we concluded that among the 100 samples, 39% of them had good knowledge regarding dysphonia, 46% had satisfactory knowledge regarding dysphonia, and 15% of them did not have any knowledge regarding dysphonia.

**Conflict of interest:** nothing specific – can use the study findings with proper citation of the author's name.

**Source of funding:** None.

**Ethical clearance:** The research proposal was presented before the Amrita College of Nursing thesis review committee of tertiary care hospitals in Kochi. The permission was obtained from the head of the speech pathology and audiology department to conduct the study. The informed consent was obtained from the subject before data collection. Confidentiality of the data was ensured.

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