

# PREVALENCE OF VOCAL ABUSE AND KNOWLEDGE ON VOCAL HYGIENE AMONG SPIRITUAL CHANTERS

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**ABSTRACT:** Spiritual chanters are professional voice users who spend a significant amount of time reciting spiritual mantras. Knowledge of vocal hygiene should be a fundamental consideration for professional voice users. The purpose of this study is to describe the prevalence of spiritual chanters as well as their understanding of vocal hygiene procedures. A questionnaire was created to address many components of vocal abuse and vocal hygiene routines. The questionnaire was completed by 50 spiritual chanters. The results were statistically analysed and compared prevalence and knowledge with years of experience for significance. The findings suggested that spiritual chanters are highly exposed to the risk of voice-related problems and the knowledge of vocal health and vocal hygiene practises is lower among the spiritual chanters.

## INTRODUCTION

Voice disorder occur when a person's voice quality is affected or is inappropriate to his/her age or gender. Over-usage of voice, respiratory infections, gastric/ acidity problem, repeated throat clearing, tumours/ nodules in the voice box or vocal cancer may lead to voice problems. The combination of self-reported symptoms and clinically observed signs like, Roughness/change in voice quality, inability to hit some high notes, loss of voice, increased breathiness while speaking, pain or fatigue while speaking, strained voice production.

On a current scenario, many individuals are not aware of vocal abuse, but they are one among the group of voice over users. The voice problems experienced by professional voice users have critically increased. Professional voice users like singers, teachers, actors, Politicians, etc. are vulnerable to voice disorders as they use voice for longer hours and might shout or scream on a daily basis which is harmful to the voice box. It's been proposed by World Health Organization in the new version of the International Classification of Impairments, Disabilities of Handicaps.

Voice professionals highly rely on their voice to gross their income and they are highly prone to the developed the voice problems. Sophisticated voice users like singers or Spiritual chanters, where even a slight vocal difficulty cause serious consequences to them and their careers. The effect on voice problem leads to poor occupational performance, communicative capacity, impair social functioning and daily life. It is important to be aware of occupational voice health as voice professionals. Boominathan, Sivapriya and Gomathy (2005) studied the awareness of vocal hygiene among 32 radio professionals in India and found that more than 50% of radio professionals in the study showed limited awareness of vocal hygiene especially.

Chanters use their voice louder by chanting the vedic mantras for long period of time in a crowd noisy environment. Some chanters work without any amplification and on the other hand the behaviors or daily routines which may predispose individuals to adverse general and vocal health. The incidence of voice disorders among these professionals might be because of the poor vocal hygiene and inappropriate use of voice. Boominathan and Shruthi (2005) profiled the vocal and nonvocal habits in Carnatic, light music singers and indicated several poor vocal hygiene habits among trained Carnatic and light music singers in India.

Awareness on Vocal Hygiene Programs should be an essential part on the life of professional voice users which will uplift the quality of life by preventing the voice disorders. Timmermans, Bodt, Wuyts, and Heyning (2003) demonstrated the necessity of vocal hygiene education programs in radio professionals as they seemed to under estimate the negative implications of bad vocal hygiene. Overall, this study was conducted to investigate the knowledge on vocal hygiene and vocal abuse among the Spiritual chanters.

## REVIEW OF LITERATURE

Bernadettea, Jan & Marc (2005) studied the outcome of vocal hygiene in singers. Research on vocal hygiene is specific, focusing on concrete solutions. It has commonly been believed that hydration and vocal rest are beneficial; recent research proves this supposition. An exhaustive medical diagnosis and careful therapy is stressed to detect and treat any micro-organic lesions caused by reflux, infection, allergy and environmental circumstances, which can harm a singer's voice. The use of medication is reviewed and side effects are evaluated.

Karulkar & Gunjawate (2021) did a preliminary study to explore the voice problems, vocal and non-vocal habits of 40 Naradiya Kirtankars and the results revealed that kirtankars might be at a risk of developing voice problems.

Ramani, Kumar Balasubramaniam & Gunjawate (2021) explored the voice concerns and vocal and nonvocal habits of 200 vedic chanters. The results revealed that the majority of vedic chanters were involved in certain vocal habits such as use of loud voice while chanting and frequent throat clearing. Further, approximately half of the chanters expressed a concern towards their voice, while a vast majority experienced vocal fatigue

Sharma, Nayak & Devadas (2021) did a survey on vocal health in 148 church choir singers Eighty-four percent of the choir singers reported two or more vocal symptoms sometimes or more frequently while or after singing. More than half of the church choir singers had experienced vocal symptoms such as accessing notes in the upper range, loss of vocal endurance, pitch breaks, hoarseness, dryness in the throat, and discomfort in the throat. Among the different variables, systemic hydration found to have a significant association with reporting of voice problems in church choir singers. The overall knowledge regarding the factors influencing vocal health was found to be limited among the choir singers.

Nair, Joshi & Gunjawate (2021) explored the knowledge, attitudes, and practices among 100 Indian Carnatic singers towards vocal health care. The result reveals that the singers displayed good knowledge and positive attitudes towards vocal health care. A preference (73%) towards home remedies was noted as compared to seeking medical attention. The measures reported by the singers for maintaining good vocal health revealed use of several home remedies, vocal as well as non-vocal measures.

Rahul, Saroj & Winston (2021) studied on Social Representation of 'Vocal Hygiene' in India and Bhutan. Results revealed diverse social representations of 'vocal hygiene' in India and Bhutan. The professional voice use pattern differed between the two populations but not the recreational and/or personal voice use pattern.

#### METHODOLOGY

##### AIM:

This study aims to investigate the knowledge on vocal abuse and vocal hygiene among the Spiritual chanters. with the objective of analysing the developed questionnaire regarding the year of experience, vocal abuse and vocal hygiene.

##### OBJECTIVE:

- To examine knowledge on vocal abuse and vocal hygiene among the Spiritual chanters
- To examine prevalence of voice disorder among spiritual chanters.
- To compare year of experience and the level of knowledge among Spiritual chanters.

The present study was done in two phases.

##### PHASE - 1: PREPARATION OF QUESTIONNAIRE

A questionnaire with 25 sets of questions was created. Five speech and language professionals who are currently in practise were circulated the questionnaire as part of validation procedure. The first section of the questionnaire consists of demographics. The second section consists of 22 closed ended questions of about knowledge and awareness of vocal abuse and misuse with 2- point rating scale. The third section consists of 3 questions that focused on the year of experience, knowledge on consultation and history of voice problem.

##### PHASE - 2: PARTICIPANTS WITH INCLUSION AND EXCLUSION CRITERIA:

50 Males, age range of 25 – 60 years participated in the study. All the participants were certified Spiritual chanters who work on the daily basis. Participants were professionally certified and currently working in the state of Tamil Nadu. The Unverified Spiritual chanters, retired and infrequent Spiritual chanters were excluded from this study.

##### SIGNIFICANCE OF THE STUDY:

Spiritual chanters experience high prevalence of vocal symptoms after a period of chanting and they exhibit limited knowledge about the factors which negatively influence on vocal health. Hence, there is a need to highlight on the awareness of vocal hygiene among the Spiritual chanters and to establish the knowledge on vocal and non- vocal factors associated with voice problems.

##### PROCEDURE:

The above questionnaire was circulated to the group of Spiritual chanters and explained the need of study to get appropriate response for the questions addressed.

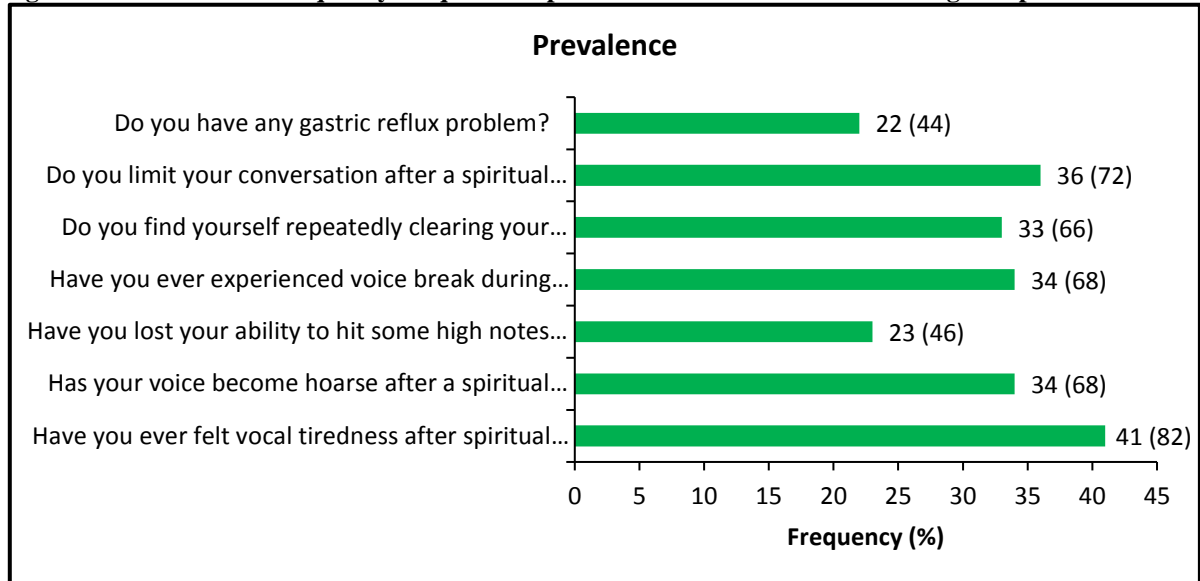
##### STATISTICAL ANALYSIS:

The collected data were summarized by using the Descriptive Statistics: frequency, percentage, mean and S.D. To find the significance on awareness and years of experience, the Likelihood ratio test was used. The p value < 0.05 was considered as significant. Data is analysed using SPSS software (SPSS Inc.; Chicago, IL) version 26.0.

#### RESULT AND DISCUSSION

**Table 1: Showing the result on frequency and percentage of knowledge on Prevalence of Voice disorders among spiritual chanters**

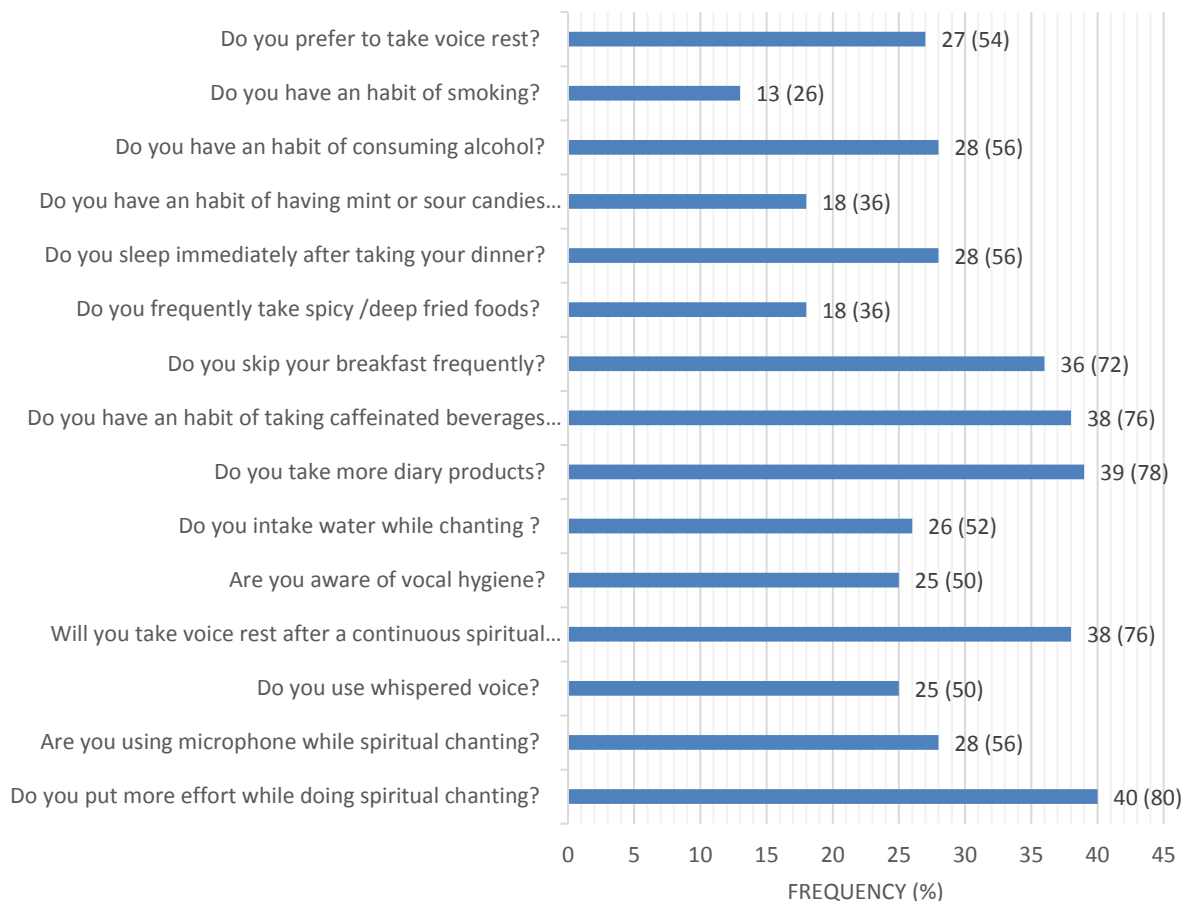
(n = 50)	Yes		No	
	Frequency	%	Frequency	%
Have you ever felt vocal tiredness after spiritual chanting?	41	82	9	18
Has your voice become hoarse after a spiritual chanting?	34	68	16	32
Have you lost your ability to hit some high notes when spiritual chanting?	23	46	27	54
Have you ever experienced voice break during spiritual chanting?	34	68	16	32
Do you have any gastric reflux problem?	22	44	28	56
Do you find yourself repeatedly clearing your throat during spiritual chanting?	33	66	17	34
Do you limit your conversation after a spiritual chanting?	36	72	14	28

**Figure 1: Illustrates the frequency on questions prevalence of voice disorders among the spiritual chanters**

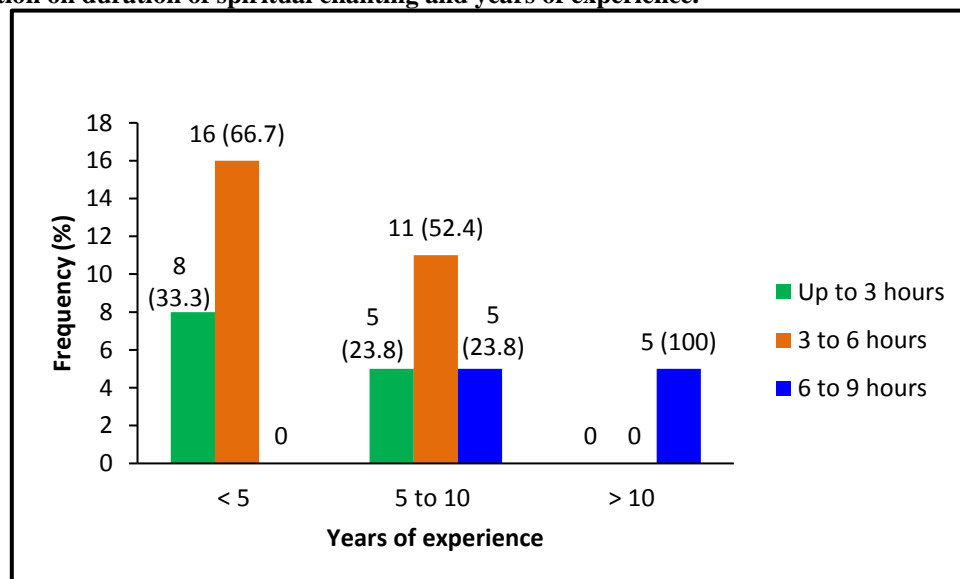
**Prevalence of Voice Disorders:** 82 % of chanters felt vocal tiredness, 68 % felt hoarse of voice after a continuous chanting. 46% of chanters fail to hit some high notes, 68% of chanters experienced voice break during the chanting period. 46% lost their ability to hit some high notes, 68% have experienced the voice break during the chanting, 44 % suffer from gastric reflux problem, Repeated throat clearing has been self-noticed by 66% of spiritual chanters and 77% of chanters limit their conversation after the spiritual chanting. From the above-mentioned statistical values, it is clear that spiritual chanters experience high frequency of symptoms on voice problem.

**Table 2: Showing the result on frequency and percentage of response to knowledge about Vocal Hygiene**

(n = 50)	Yes		No	
	Frequency	%	Frequency	%
Do you put more effort while doing spiritual chanting?	40	80	10	20
Do you use whispered voice	25	50	25	50
Are you using microphone while spiritual chanting?	28	56	22	44
Will you take voice rest after a continuous spiritual chanting?	38	76	12	24
Are you aware of vocal hygiene?	25	50	25	50
Do you intake water while chanting?	26	52	24	48
Do you take more dairy products?	39	78	11	22
Do you have a habit of taking caffeinated beverages like coffee?	38	76	12	24
Do you skip your breakfast frequently?	36	72	14	28
Do you frequently take spicy /deep fried foods?	18	36	32	64
Do you sleep immediately after taking your dinner?	28	56	22	44
Do you have a habit of having mint or sour candies during or after spiritual chanting?	18	36	32	64
Do you have a habit of consuming alcohol?	28	56	22	44
Do you have a habit of smoking?	13	26	37	74
Do you prefer to take voice rest?	27	54	23	46

**Figure 2: Illustrates the result overall frequency of Knowledge on vocal hygiene practices among the spiritual chanters.**

**Knowledge on Vocal Hygiene:** 80% of the chanters put more effort during spiritual chanting, 50% of the chanters use whispered voice. 44 % were not using microphone during spiritual chanting. 76% of chanters were taking voice rest after a spiritual chanting, 50% of chanters were aware of vocal hygiene, 52% of chanters consume water during their chanting period, 78% of chanters consume more dairy products. 76% of chanters have an habit of taking caffeinated beverages, 72% skip their breakfast frequently, 36% of chanters take spicy/ fried foods frequently, 56% of chanters have an habit of sleeping immediately after having their dinner, 36% of chanters have an habit of taking sour candies during and after their chanting, 56% of chanter have an habit of consuming alcohol, 26% of chanters has an habit of smoking and 54% of chanters prefer to take voice rest after the spiritual chanting. The result shows 50% of chanters were aware of vocal hygiene but their daily routines and activities on the other set of questions clearly shows that they are still in backwardness on vocal hygiene knowledge.

**Figure 3: Correlation on duration of spiritual chanting and years of experience.**

**Table 3: Frequency and percentage of knowledge on Multiple choice questions.**

(n = 50)		Frequency	%
Whom will you consult if you have voice problem?	Doctor	36	72
	Speech Therapist	14	28
Have you ever been diagnosed with any voice disorder? If yes, please mention	Yes	0	0
	No	50	100
What is the maximum time you spend for spiritual chanting?	Up to 3 hours	13	26
	3 to 6 hours	27	54
	6 to 9 hours	10	20

The above table explains 72 % of chanters were not aware of whom to consult, The sample group reported, no history on voice disorder, 26 % of chanters spend up to 3 hours on chanting, 54 % chanters spend 3 to 6 hours on chanting and other 20 % of chanters spend 6 to 9 hours on spiritual chanting.

**Table 4: Correlation on knowledge and years of experience**

		Years of experience						Likelihood Ratio	p value
		< 5		5 to 10		≥ 10			
		n	%	n	%	n	%		
Do you put more effort while doing spiritual chanting?	Yes	16	66.7	19	90.5	5	100	6.279	0.043*
	No	8	33.3	2	9.5	0	0		
Have you ever felt vocal tiredness after spiritual chanting?	Yes	19	79.2	20	95.2	2	40	7.805	0.020*
	No	5	20.8	1	4.8	3	60		
Has your voice become hoarse after a spiritual chanting?	Yes	16	66.7	17	81.0	1	20	6.680	0.035*
	No	8	33.3	4	19.0	4	80		
Have you lost your ability to hit some high notes when spiritual chanting?	Yes	10	41.7	11	52.4	2	40	0.598	0.741
	No	14	58.3	10	47.6	3	60		
Are you using microphone while spiritual chanting?	Yes	10	41.7	16	76.2	2	40	6.209	0.045*
	No	14	58.3	5	23.8	3	60		
Have you ever experienced voice break during spiritual chanting?	Yes	14	58.3	16	76.2	4	80	2.029	0.363
	No	10	41.7	5	23.8	1	20		
Do you use whispered voice?	Yes	13	54.2	10	47.6	2	40	0.416	0.812
	No	11	45.8	11	52.4	3	60		
Do you find yourself repeatedly clearing your throat during spiritual chanting?	Yes	16	66.7	14	66.7	3	60	1.325	0.515
	No	8	33.3	7	33.3	2	40		
Do you limit your conversation after a spiritual chanting?	Yes	16	66.7	17	81.0	3	60	3.353	0.187
	No	8	33.3	4	19.0	2	40		
Will you take voice rest after a continuous spiritual chanting?	Yes	17	70.8	17	81.0	4	80	0.679	0.712
	No	7	29.2	4	19.0	1	20		
Are you aware of vocal hygiene?	Yes	9	37.5	13	61.9	3	60	2.919	0.232
	No	15	62.5	8	38.1	2	40		
Do you intake water while chanting ?	Yes	12	50.0	11	52.4	3	60	0.169	0.919
	No	12	50.0	10	47.6	2	40		
Do you take more dairy products?	Yes	17	70.8	19	90.5	3	60	3.777	0.151
	No	7	29.2	2	9.5	2	40		
Do you have a habit of taking caffeinated beverages like coffee?	Yes	15	62.5	19	90.5	4	80	5.140	0.077
	No	9	37.5	2	9.5	1	20		
	Yes	16	66.7	16	76.2	4	80	0.686	0.710

Do you skip your breakfast frequently?	No	8	33.3	5	23.8	1	20		
Do you frequently take spicy /deep fried foods?	Yes	4	16.7	11	52.4	3	60	7.920	0.019*
	No	20	83.3	10	47.6	2	40		
Do you sleep immediately after taking your dinner?	Yes	10	41.7	16	76.2	2	40	0.007	0.996
	No	14	58.3	5	23.8	3	60		
Do you have a habit of having mint or sour candies during or after spiritual chanting?	Yes	9	37.5	8	38.1	1	20	0.673	0.714
	No	15	62.5	13	61.9	4	80		
Do you have any gastric reflux problem?	Yes	8	33.3	10	47.6	4	80	3.972	0.137
	No	16	66.7	11	52.4	1	20		
Do you have a habit of consuming alcohol?	Yes	9	37.5	16	76.2	3	60	7.055	0.029*
	No	15	62.5	5	23.8	2	40		
Do you have a habit of smoking?	Yes	4	16.7	7	33.3	2	40	2.215	0.330
	No	20	83.3	14	66.7	3	60		
Do you prefer to take voice rest?	Yes	12	50.0	13	61.9	2	40	1.083	0.582
	No	12	50.0	8	38.1	3	60		

(\* Significant)

The Likelihood ratio test was used to find the association between awareness and years of experience. There was significant difference ( $p < 0.05$ ) for questions like, do you put more effort while doing spiritual chanting? Have you ever felt vocal tiredness after spiritual chanting?, Has your voice become hoarse after a spiritual chanting?, Are you using microphone while spiritual chanting?, Do you frequently take spicy /deep fried foods?, Do you have an habit of consuming alcohol? Which is compared with the years of experience other questions mentioned above on table- 4 has no significant difference.

**Table 5: Comparing the knowledge on consultation regarding voice problem, Maximum duration of time spent for spiritual chanting with the years of experience**

		Years of experience						Likelihood Ratio	p value
		< 5		5 to 10		≥ 10			
		n	%	n	%	n	%		
Whom will you consult if you have voice problem?	Doctor	16	66.7	17	81.0	3	60	1.562	0.458
	Speech Therapist	8	33.3	4	19.0	2	40		
What is the maximum time you spend for spiritual chanting?	Up to 3 hours	8	33.3	5	23.8	0	0	27.007	< 0.001*
	3 to 6 hours	16	66.7	11	52.4	0	0		
	6 to 9 hours	0	0	5	23.8	5	100		

(\* Significant)

The Likelihood ratio test is used to find the significance on, whom will you consult if you have voice problem, what is the maximum time you spend for spiritual chanting and years of experience. There was an association ( $p < 0.05$ ) on the maximum time spend for spiritual chanting and years of experience.

## DISCUSSION

Spiritual chanters are one among the group of professional voice users, who continuously chants mantras for a longer duration without sufficient knowledge on vocal health. So the present study aimed to examine the prevalence and current state of knowledge on vocal abuse and vocal hygiene in 50 spiritual chanters. The findings of the present study explains that the spiritual chanters are highly exposed to the risk of voice- related problems. On the other hand the result shows that the knowledge on vocal health and voice hygiene practices is less among the spiritual chanters.

## CONCLUSION

The current study highlights the need to understand and to have a detailed knowledge on healthy behaviours and vocal hygiene among the professional voice users, will improve their quality of work on occupation which will uplift the quality of life by preventing them from voice disorders. Future study can be on comparing the acoustic analysis of pre and post chanting period among the chanters.

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