# Awareness Of Vocal Hygiene In University-Level Teachers In Delhi-NCR

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## INTRODUCTION

A professional voice user is someone "whose ability to earn a living is impacted negatively by the loss of vocal quality or endurance" [1] like teachers, singers, hawkers, bankers, actors, etc. Continued usage of voice for professional needs makes them susceptible to voice-related disorders. Vocal abuse and misuse by professional voice users lead to voice problems [2]. Among mentioned professionals, voice-related disorders are found more among professional voice users like teachers [3]. Teachers are susceptible to voice problems at a rate of nearly three times that of other vocal professionals [4]. Teachers' job demand of speaking loudly for long periods at the university enhances the incidence of voice-related disorders [5].

Also, unsuitable work environments like poorly aerated environments, overcrowded classrooms, and work organization problems, will incline people to adverse general and vocal health. It is possible for even a minor change in the voices of teachers to negatively affect teaching routines, daily interactions, and activities. Vocal hygiene is considered a patient-centered behavioral treatment that includes modifying vocal habits and implementing improved vocal health [6]. Vocal hygiene is a daily regimen of healthy habits to maintain the health of the vocal folds. These include refraining from inappropriate vocal usage and situations that place the voice under undue strain, as well as taking practical measures that promote efficient voice production and overall vocal health. It has been found, to the best of the researcher's knowledge, that there are studies on this topic but in limited scope. Therefore, teachers are not well aware about the vocal hygiene. The drawbacks in the job profile due to poor vocal hygiene shows the importance of prevention by getting educated about vocal hygiene program. Therefore, voice educational programs to prevent voice disorders should be recommended in work settings to improve professionals' quality of life that frequently uses their voices [7]. The vocal category showed maximum improvement in scores, indicating that the teachers' awareness of vocal hygiene practices was better after attending the vocal hygiene awareness program. This program served to sensitize the teachers regarding practices that should be followed to protect their voices and stay vocally healthy [8].

## AIM

The primary purpose of the current study is to increase awareness, behavior and practice of vocal hygiene among university professors.

## OBJECTIVE

The objective of the study was to develop the questionnaire and gather information regarding vocal hygiene awareness among university-level teachers.

## METHODOLOGY

The study was conducted in three phases. The participants involved in the study were university-level teachers with a minimum of two years of experience teaching in Delhi-NCR universities and with the age range of 21 and 75 years respectively. The mean age of participants was 48 years respectively. The first stage of the study included the development of a questionnaire with thirty yes/no questions based on vocal hygiene. However, validation of the questionnaire was done by five speech-language pathologists and one audiologist having at least five years of experience in the area of research and clinical practice in the next stage. Out of the thirty questions, twenty were selected. The participants' consent was taken while the questionnaire was distributed among the universities in Delhi-NCR. The questionnaire was administered in a silent room and the duration of the time taken by the participant to fill the questionnaire was 15 minutes. The inclusion criteria of the study included the teachers having minimum two years of regular teaching experience and with no voice related issues and secondary issues. However the exclusion criteria was that the teachers having thyroid or other associated problems like voice pathologies or tonsils, migraine, or any cognitive difficulties was excluded from the present the study. The questionnaire was divided into three sections in which the first section included consent from the participant. The second section included demographic data like name, age, teaching experiences, number of hours they teach in a day, etc. The final section included twenty yes/no questions regarding vocal hygiene awareness. The complete questionnaire was then analyzed based on the responses that were obtained and the percentage of each response to the questions was calculated. A total of 50 people (21 men and 29 women) granted their agreement to take part.

## RESULT

Out of the 50 teachers that participated in the study, the total proportion of the teachers that visited a vocal or speech therapist was found to be about 10% while 90% of them never visited a vocal therapist. (Graph 1)

**Graph 1**

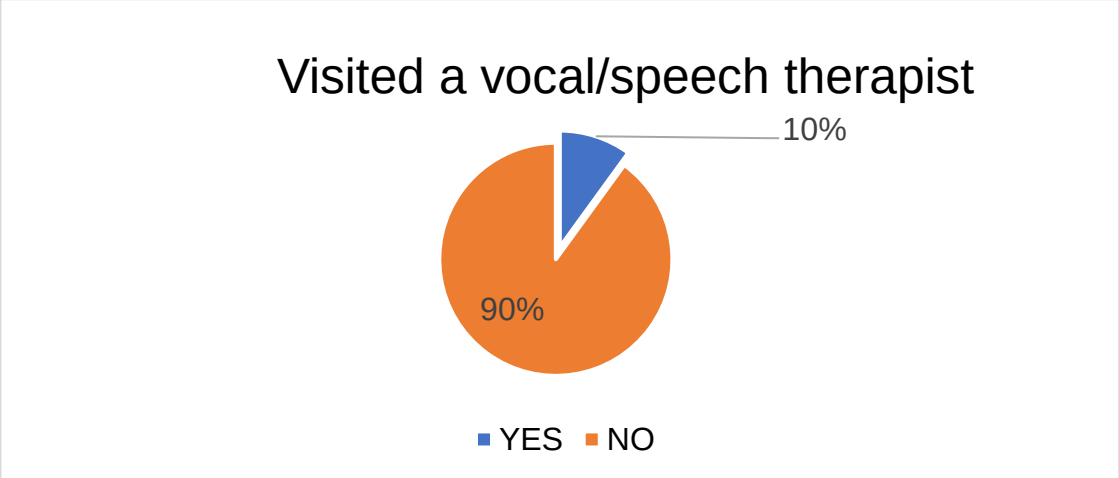



**TABLE 1** shows the percentage of the answers to each question given by university-level teachers.

| Q.NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YES (%) | 22 | 32 | 8 | 30 | 90 | 76 | 72 | 83 | 8 | 82 | 28 | 40 | 62 | 46 | 22 | 46 | 76 | 66 | 4 | 4 |
| NO (%) | 78 | 68 | 92 | 70 | 10 | 24 | 28 | 17 | 92 | 18 | 72 | 60 | 38 | 54 | 78 | 54 | 24 | 34 | 96 | 96 |

**TABLE 1**

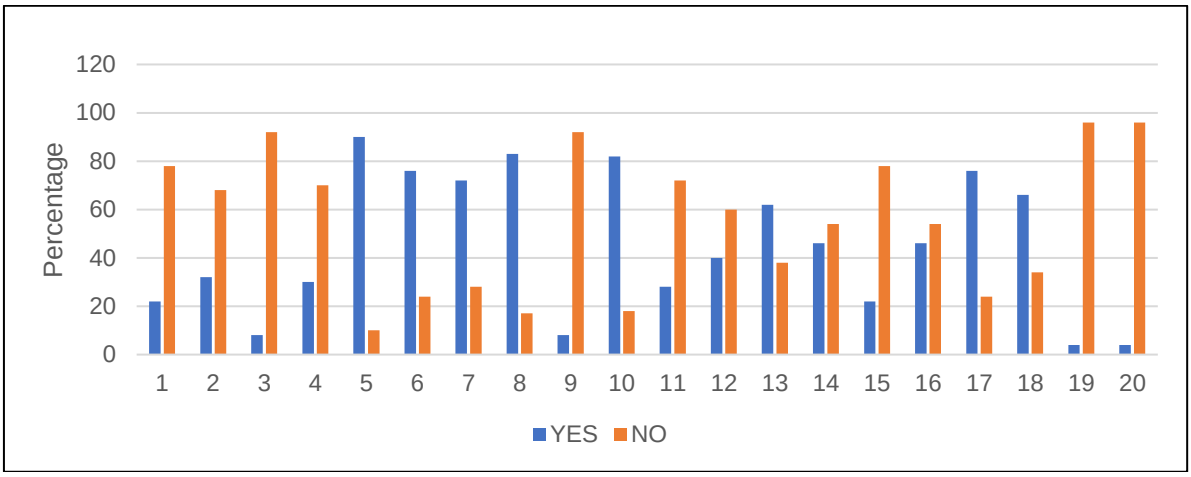
The answer given by the participants for the first question showed that 78% of teachers believed that clearing the throat cannot harm the vocal quality while the rest 22% of teachers believed that it can harm the voice quality. According to the University of Teas Health Science Centre, throat clearing is extremely traumatic to the vocal cords causing excess wear and tear. The answer to the second question revealed that 68% of the participants knew that caffeinated drinks can harm vocal quality. Caffeine produces voice quality alterations, but these alterations have considerable intrasubject variability [9]. The answer to question 3 showed that 92% of teachers believed that the consumption of alcohol does not improve vocal quality. Alcohol abuse hurt the human voice as it causes differences in voice parameters [10]. According to 70% of the teachers, shouting does not enhance local quality. When they yell or scream, they are bashing vocal cords together extra hard with each vibration. This can make them get a hoarse voice. 90% of them also believed that vocal warmup exercises improve the quality of voice [11]. Consumption of water is also essential for voice. 76% of the teachers revealed that water consumption improves vocal quality. Dehydration negatively affects the parameters of noise-to-harmonics ratio (NHR), shimmer, jitter, frequency, and the s/z ratio. Water ingestion significantly improved shimmer, jitter, frequency, and maximum phonation time values [12].

The answer to the 7th question showed that 72% of the teachers believed that junk or oily foods can harm vocal quality. 83% of participants knew that they should consult a Speech Language Pathologist (SLP) in case of voice change. SLPs play a central role in assessing, diagnosing, and treating voice disorders. They are trained to evaluate voice use and vocal function to determine the cause of reported symptoms and to determine optimal treatment methods for improving voice production [13]. 92% of the teachers who participated in the study said smoking harms their voice. Fundamental frequency, jitter, shimmer, harmonics-to-noise ratio, and other voice features are affected by smoking [14]. 82% of the teachers also revealed that dust particles affect vocal quality. 72 % of the teachers revealed that consuming milk products at night is not good for improving voice quality. Certain dairy products may cause the reflux of acid from the stomach, which may cause vocal difficulties. 60% of them revealed that menthol does not degrade the voice quality. Menthol cough drops can feel soothing at first, but they can have a drying effect on vocal cords. 62% of the teachers revealed that informal singing improves vocal quality. And 54% of them believed that mimicry does not degrade the voice quality.

Among the total participants, 78% of the teachers were convinced that sour products do not improve voice quality. According to 46% of the teachers, whispering can be helpful if they have a strained voice. Whispering involves more severe hyperfunction in most people, it does not seem to do so in all. In some, it may be less traumatic than a normal voice.

However, whispering should be avoided as it causes more traumas to the larynx than normal speech [15]. 76% of the teachers also knew that physical fatigue decreases vocal quality. Sitting posture is also important for having good vocal quality. 66% of the teachers revealed that sitting posture also helps in improving voice quality. Poor posture results in reduced respiratory support for voice and also reduces the openness of the vocal tract—both of these will encourage the body to use extrinsic muscles for voice production, which will lead to local effort, vocal fatigue, inefficient voice use, and even muscle tension dysphonia (MTD). 96% of the teachers showed that teaching in noisy situations is not beneficial.

Also, tobacco does not improve vocal quality and 96% of teachers agree with it. Tobacco consumption reduces the lung vital capacity and other parameters of voice. The time and amount of consumption had a direct relationship with the vocal and maximum phonation time [16].




**Graph 2** represents the overall result:

## DISCUSSION

The present study aims to examine the awareness of vocal hygiene in teachers working in universities, which represents a very important occupational sector that affects the outcome of future generations. Even though teachers are more prone to develop voice-related disorders, 90% of the total participants never visited a vocal therapist and due to the lack of knowledge of the vocal hygiene program, there are no implementations of vocal care by the teachers. All voice-related disorders can be corrected with proper vocal hygiene training. There is evidence that a vocal hygiene awareness program with information on strategies that aims to promote optimal voice production, and that eliminating abusive vocal behaviors is effective in treating voice problems [17]. In the current study, it was very important to emphasize increasing the teachers' knowledge of vocal hygiene tips such as taking care of hydration, not shouting in the classroom, not speaking too loudly in a noisy environment, and many more. There is a high chance that the teacher's knowledge regarding vocal hygiene can be improved after various organizations of camps or vocal training programs. Teachers are also advised to visit a vocal health professional whenever they experience any change in voice.

## CONCLUSION

Although teachers are aware of vocal hygiene, due to the lack of knowledge there are no implementations of vocal care. Few types of research are done on this topic, especially in Delhi-NCR, so the awareness is not completely present in the teachers. The awareness of vocal hygiene could be raised by organizing various camps at universities where direct contact is present between the teachers and the Speech-Language Pathologist. The role of the speech-language pathologist is primarily to describe and characterize the features of the voice, determine if the features differ from the norm, and, if a disorder is present, explore intervention approaches that will improve the client's voice [18]. Voice analysis could be performed at the camps or the surveys to check the vocal parameters.

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