Prevalence of voice problems among hawkers in Mumbai

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Abstract

Introduction: Hawkers have been identified as at increased risk of developing an occupational voice disorder. Hawkers are particularly at risk as they have little opportunity for voice rest during the working day. The consequences of voice disorder may have an impact on hawker's social and professional life as well as their mental, physical and emotional state and their ability to communicate.

Aims: To determine the prevalence of voice disorder and the relationship between voice disorder with associated risk factors such as smoking and other lifestyle factors among hawkers in Mumbai, India..

Materials and Methods: A 30 item questionnaire addressing the prevalence of voice disorder and potential risk factors was administered to 100 hawkers from various markets in Mumbai.

Results: The results showed that the prevalence of a voice disorder was 31.6% among the hawkers. Females are more prone of to have a voice disorder. Sore throat is found to be the most common vocal symptom followed by coughing, blocked nose swollen gland, phlegm and the least common symptom seen is throat infection Smoking, tobacco, years of experience, and duration of work is significantly associated with voice disorder.

Conclusion: This study conclude that excessive use of vocal ability leads to a voice disorder.

Keywords: Voice disorder, Hawkers, Risk factors, Lifestyle factors.

Introduction

Voice is a unique character which is different in every individual. Voice delineates the personality of the speaker as much as or more than the words he/she speaks. The voice has a subtle quality which conveys the personality of a speaker. The human voice can be thought of as a "window into the soul" Boone, McFarlane, Von Berg & Zraick (2010). Voice is an integral part of that uniquely human attribute known as speech. The larynx and its capabilities are important in two broad areas; biological function and speech. The larynx houses the major source of sound during speaking. In addition to its role as a carrier of words, the voice can also produce music and express emotion-it acts as a mirror to inner self (Colton & Casper 1996). It is a reflection of the personality of the individual. Our voice influence every part of human interaction and culture. Voice communication begins at birth. The birth cry is the first sign of life. The cry soon becomes the communication link between baby and mother. (Micheal S. Benninger, Thomas Murry, 2008)The speaker voice is used to attract as well as to repel people. The voice can reveal a person's physical state, as well as the physical state of the larynx. The weak or tremulous voice identified with illness is easily identified, and the voice altered by laryngeal pathology is identified as normal.

Professional vocalists are individuals who rely on their voices to be the major part of their occupation. This includes teachers, salespeople, coaches, politicians, broadcasters, singers, orators, hawkers, clergy and numerous other professionals. The voice demands, the techniques and style of use, and the overall quantity of use may vary considerably among these groups. Similarly, the quality demands and the ability to maintain their professional value may differ. Newscasters must talk rapidly with clear articulation, teachers must talk for long periods of the day, hand sports coaches must talk loudly and hawkers must talk loudly for long periods of the day. Ultimately, however the need to maintain a strong, effective, and clear voice affects each of these professionals and contributes in some way to their success. Without their voices, these individuals can no longer perform the duties required (Micheal S. Benninger, Thomas Murry, 2008).

In some occupation voice is the primary tool of trade. Voice professional often use their voice more intensively than the normal population, and are at high risk for work-related voice disorder. The intensive use of voice may be the risk for voice related problem. Voice disorders affect the quality of life as well as cause burden on health care expenses. Voice disorder affects the job performance and due to which they have missed their workday. Voice disorder becomes an occupational disorder which is an important issue in profession where there is high vocal demand. Hawkers and street vendors are those who have to use their voice constantly to sell their products. Using of voice in daily basis is a matter of concern, excessive use of voice by the hawkers and vendors leads to various voice issues on them which they are not aware of. However, these populations are not necessarily very active in looking for help. Due to their voice issues they have to suffer economically. Once they have problem with their voice other aspects of their life start to be affected.

Need

Hawkers or vendor population are not necessarily looking for help. The actual reason for this has not been explored but practical and economic issue has been suggested. They might also be ignorant about where to get help, or perhaps help is not easily available. Most of the

times they think that their problems are normal inconvenience with their occupation which may account for why they do not seek help at early stage. The present study is designed to evaluate the voice problem faced by the hawkers. This study will contribute to the knowledge that whether hawkers are aware about the voice problem or not, which will further helpful in development to develop preventive adoptive behavior to reduce the impact of severity of problem.

Aim of the Study

1. To determine the prevalence of voice disorder in hawkers in Mumbai, India.
2. To identify the risk factors associated with a voice disorder in hawkers in Mumbai, India.
3. To determine the relationship between voice disorder and associated risk factors such as excessive shouting activities and lifestyle factors in hawkers in Mumbai, India.

Null Hypothesis

There would be no significant difference in the risk factors associated with voice problems in hawkers in Mumbai, India.

Methodology

The aim of the present study was to examine the prevalence of voice Problems in hawkers in Mumbai and to identify the risk factors associated with voice problems in hawkers

Research design: Survey design with convenient sampling.

Sample size: 60 hawkers were selected from three different markets across Mumbai with a response rate of 60%.

Inclusion Criteria

1. Subjects who have minimum five years' experience as a fulltime Hawker.
2. Ability to comprehend conversational speech.
3. Age range between 20 to 70 years.
4. Gender- Male and Female.

Exclusion Criteria

1. Subjects with less than 5 years' experience as a full time hawker.
2. Inability to comprehend conversational speech.

Tool

A self-administered questionnaire was developed to identify prevalence of perceived voice problems and risk factors associated with voice problems in hawkers. A self-constructed questionnaire was developed consisting of the following 6 sections:

Section A

The demographic characteristic which asked about age, gender, and marital status.

Section B

The occurrence of VD in the past 12 months followed by symptoms suffered by the respondents. The occurrence of VD was assessed with the question "Have you suffered from VD in the past 12 months?" (Yes/No). Those who answered "Yes" were considered of having VD. The frequency of suffered from VD was also assessed with the question "How many times you have suffered from VD in the past 12 months?" (None/Once/More than once). Those who answered "More than once" were considered of having VD frequently. The voice symptoms such as sore throat, coughing, swollen gland, lot of phlegm, blocked nose and throat infections was asked and to be answered "Yes" or "No".

Section C

This section focused on lifestyle factors which asked about smoking behavior, alcohol consumption and chewing of tobacco. For smoking behavior, it was assessed with the question "Do you smoking?"(Yes/No), and "How long have you been smoking?" (None/1 year/More than 1 year). For alcohol consumption, the question was "Do you consume alcohol beverages?" (Yes/No) and "Have you consume alcohol beverages in the past 12 months?" (Yes/No). Finally for chewing tobacco, it was assessed with the question "Do you chew tobacco?" (Yes/No)

Section D

This section focused on work related activities which basically asked about hawker's task. (a) years of working, (b) duration of work per day, (c) approx number of people interacted in a day, (d) effect of the work environment on their voice, (e) trouble speaking loudly or in a noisy situation, (f) Do they run out of air or need to take frequent breaths while talking, (g) Has any of their voice problem interfered with any work related activities, (h) Does their voice problem has affected their income

Section E

In this section, methods on handling VD were assessed using questions like "Do you seek for treatment when suffered from VD?" (Yes/No), "What type of treatment do you seek for when suffered from VD?"(No treatment/Doctors/pharmacist prescription/home remedies) and "What kind of self-treatment do you take when suffered from VD?" (No treatment/more fluid intake/shout less/using microphone).

Section F

In this section, level on knowledge and awareness of voice care was assessed by using several questions such as "Have you received any information about VD is one of occupational hazards?" (Yes/No) and "Do you think that information about VD is one of occupational hazard shall be distributed among hawkers?" (Yes/No). The questionnaire was validated by 3 speech language pathologists prior its use in the study.

Data Analysis

The field tested questions were examined using suitable statistical tests. CHI-SQUARE test was used to determine the association between various factors and voice disorders. Percentage analysis was done for the obtained data and similarly has been illustrated in the Results.

Results

The study involved 60 hawkers who had agreed to participate in this study with a response rate of 60%.

Section A

Out of 60 hawkers, 39 were male and 21 were female. From the total respondents, 22 (36%) of them had suffered from voice disorder.

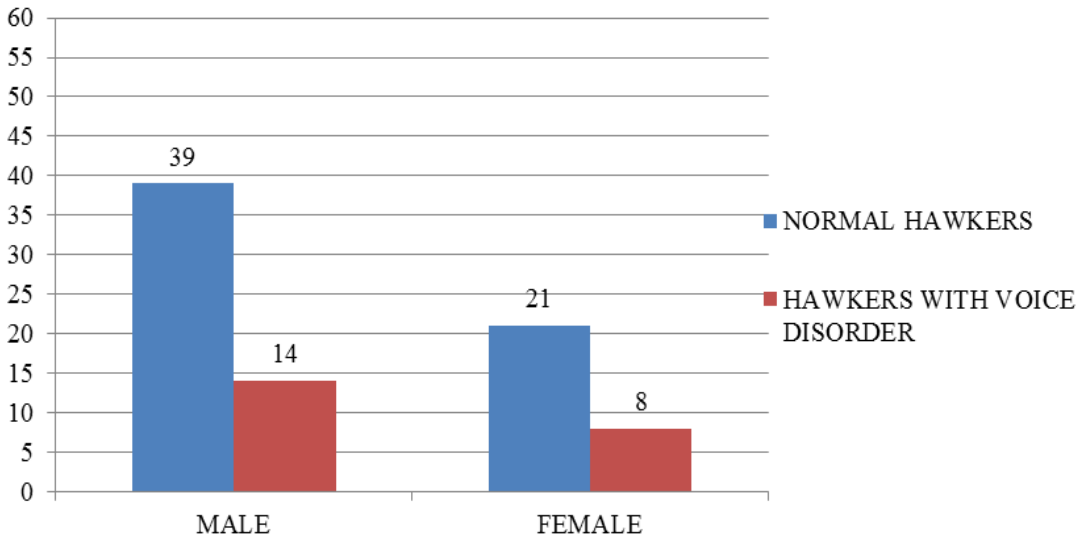

Fig. 1.0: Bar Diagram for prevalence of voice disorder in male and female hawkers Out of 22, 14(35.8%) of them were male and 8(38.09%) hawkers were female. 18 (81%) out of 22 affected hawkers have a minimum of 10 years of experience of working in this field. Out of these 18 hawkers, 12(66.6%) hawkers were male and 6(33.3%) were female.

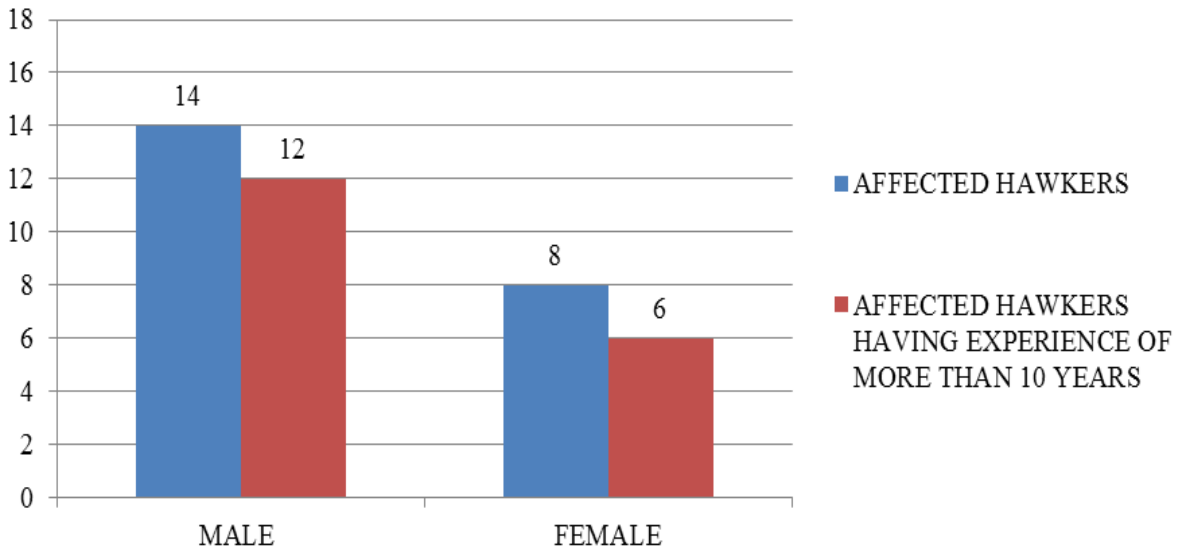

Fig. 1.1: Bar Diagram for prevalence of voice disorders in male and female hawkers having more than 10 years of working in this field.

In age wise distribution, 25(41.6.%) hawkers out of 60 were between the age group of 20-40 years, 27(45%) hawkers were between the age of 40-60 and 8(13.3%) were between the age of 60-70 years. In marital status, 15(25%) hawkers out of 60 were not married, 45 (75%) were married.

Section B

22(36.6%) out of 60 hawkers have suffered from a voice disorder in the past 12 months and 10(16.6%) hawkers have suffered only once while 12(20%) hawkers have suffered for more than once in the past one year.

Symptoms	Percentage seen in hawkers	
	Yes	No
Sore throat	49(81.6%)	11(18.3%)
Coughing	46(76.6%)	14(33.4%)
Swollen gland	37(61.6%)	23(38.3%)
Lot of phlegm	35(58.3%)	25(41.6%)
Blocked nose	40(66.6%)	20(33.3%)
Throat infection	31(51.6%)	29(48.3%)

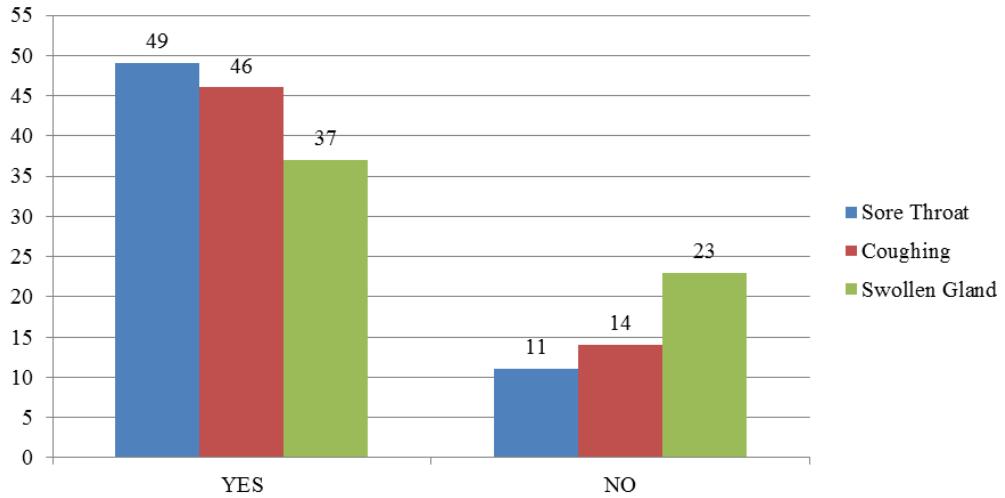

Fig. 2.0: Bar diagram for vocal symptoms seen in hawkers

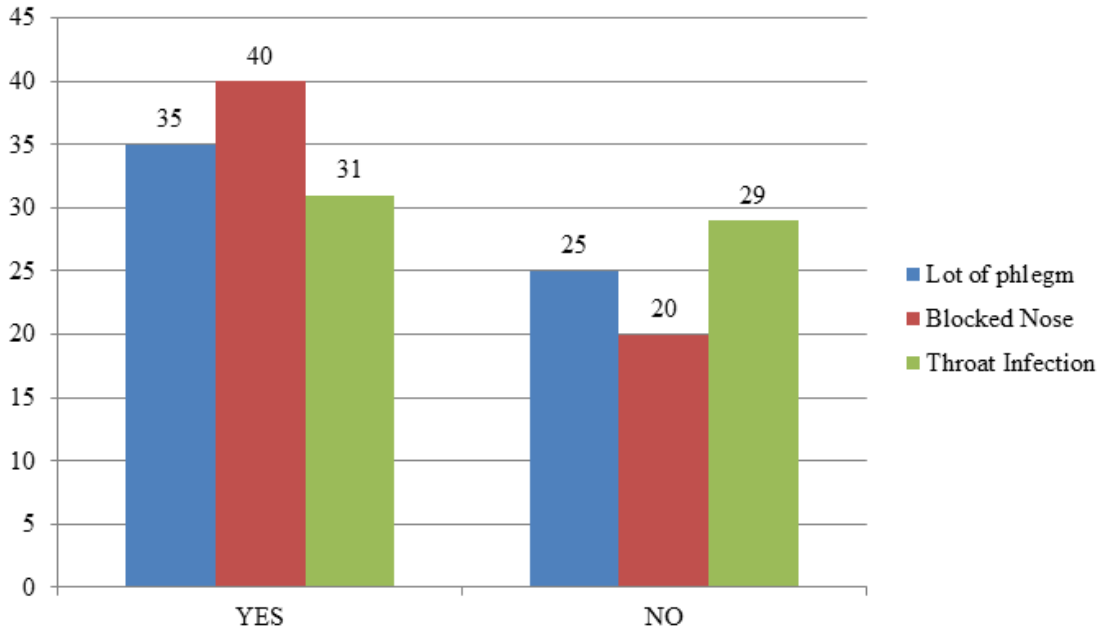

Fig. 2.1: Bar diagram for vocal symptoms seen in hawkers

Section C

The lifestyle factors which are seen in hawkers are as follows:

		Voice disorder	
		Yes	**No**
Smoking			
Yes	25(41.6%)	8(32%)	17(68%)
No	35(58.3%)	14(40%)	21(60%)
Alcohol			
Yes	22(36.6%)	10(45.4%)	12(54.5%)
No	38(63.4%)	12(31.5%)	26(68.4%)
Tobacco			
Yes	40(66.6%)	20(50%)	20(50%)
No	20(33.3%)	2(10%)	18(90%)

Smoking: At 5% level of significance, p=8.02 which is >3.84, it can be concluded that the smoking is significantly associated with a voice disorder.

Alcohol: At 5% level of significance, p=0.371 which is <3.84, it can be concluded that, alcohol is not associated with a voice disorder. However it can be said that consumption of alcohol can worsen the existing voice disorder.

Tobacco: At 5% level of significance, p=9.64 which is >3.84, it can be concluded that, tobacco is significantly associated with a voice disorder.

Section D

This section focused on the work related activities which might be affecting their vocal health.

		Voice disorder	
Years of Experience	**% Hawkers**	**Yes**	**No**
More than 5 years but less than 10 years	15(25%)	2(13%)	13(87%)
More than 10 years but less than 20 years	30(50%)	9(30%)	21(70%)
More than 20 years	15(25%)	9(60%)	6(40%)
		Voice disorder	
Interaction with people	% Hawkers	Yes	No
Less than 50 people	23(38.4%)	8(34.7%)	15(65.2%)
More than 50 people	37(61.6%)	14(37.8%)	23(62.1%)
		Voice disorder	
Duration of work	% Hawkers	Yes	No
4-5 hours per day	25(41%)	4(16%)	21(84%)
6-8 hours per day	15(25%)	6(40%)	9(60%)
More than 8 hours per day	20(33.1%)	13(65%)	7(35%)

Year of experience: At 5% level of significance, p=7.85, which is >5.99, hence it can be concluded that years of experience is significantly associated with a voice disorder.

Interaction with people: At 5% level of significance, p=0.0529, which is <3.84, hence it can be concluded that interaction with people is not significantly associated with a voice disorder. However it can be said that interaction with people can worsen the existing voice disorder.

Duration of work: At 5% level of significance, p=10.077, which is >5.99, hence it can be concluded that duration of work is significantly associated with voice disorder.

	Voice disorder	
	Yes	**No**
Do you feel the environment in which you work effects your voice ?	15(25%)	45(75%)
Do others often ask you to repeat?	40(66%)	20(34%)
Do you have trouble speaking loudly or in a noisy situation ?	50(83.3%)	10(16.7%)
Do you run out of air or need to take frequent breaths while talking ?	38(63.3%)	22(36.6%)
Does the voice problem worsen the more you talk ?	20(90.9%)	2(9.1%)
Has any of your voice problem interfered with any of your work related activities ?	15(68.1%)	7(31.8%)
Does your voice problem cause you to loose your income ?	8(36.3%)	14(63.7%)
Does people ask what is wrong with your voice ?	11(50%)	11(50%)

Does your voice give out in the middle of speaking?	16(72.7%)	6(27.3%)
Apart from your business do you have to speak loudly ?	20(34%)	40(66%)

Section E

This section focused on the management of voice disorder done by the hawkers.

			Voice disorder	
			Yes	**No**
Do you take medical leaves when suffered from a voice disorder ?			5(22.72%)	17(77.27%)
Do you seek for treatment when suffered from a voice disorder ?			4(18.18%)	18(81.18%)
		No treatment	Doctor	Pharmacy prescription
What type of treatment do you seek for when you suffered from a voice disorder ?		20(90.9%)	1(4.54%)	1(4.54%)
	No Treatment	More liquid intake	Shout less	Use of microphone
What type of self treatment do you take when suffered from a voice disorder ?	0	15(68.18%)	7(31.81%)	O

Section F

This section consists of the awareness about voice disorder in hawkers.

	Yes	**No**
Have you received any information regarding voice disorder being a occupational hazard ?	14(23.33%)	46(76.66%)
Do you think that information about voice disorder being a occupational hazard should be distributed among hawkers?	50(83.33%)	10(16.66%)

Discussion

It is widely acknowledged that voice is very important in sales profession and that excessive speaking can put an immense strain on the voice of hawkers. The voice is an increasingly important tool at work". A clear voice is a prerequisite for a success in communication. According to Joneset et al, approximately one third of the labor force relies on voice as their primary work tool. Excessive use of vocal fold for long duration can lead to various pathologies which can result in an abnormal voice. As hawkers use their voice for a longer period of time, it was presumed that they can be at risk of having a voice disorder.

After the study, it was found that voice disorder is significantly present in the hawker population. Amongst those who were identified with having a voice disorder, female hawkers were more prone to a having a voice problem as compared to male hawkers. The years of experience also plays a role in the presence of a voice disorder. Hawkers having experience of more than 10 years were found to have a voice disorder. Sore throat is found to be the most common vocal symptom followed by coughing, blocked nose swollen gland, phlegm and the least common symptom seen is throat infection. It was seen that smoking and consumption of tobacco is significantly associated with having a voice disorder. Alcohol can worsen the existing voice problem. Years of working and the duration of working is also significantly associated with having a voice disorder. More the years of experience, more the probability of having a voice problem. Interacting with people can worsen the voice problem. Hawkers have trouble while speaking in a noisy situation, they frequently run out of breath and their voice gives out in the middle of speaking. Majority of affected hawkers have never undergone any treatment for their voice problem. The self-treatment taken by the hawkers included more liquid intake throughout the day and avoiding any situation which includes shouting or giving a strain on their voice.

In this study, as defined by Aronson, VD was defined as "any time the voice does not work, perform, or sound as it normally should, so that it interferes with communication". Some studies have attempted to define a VD in terms of symptomology but clear operational definitions were not provided. For example, Verdolini and Ramiq defined VD as "a condition of sufficient concern for the bearer to report it, register functional disruption because of it and/or seek treatment because of it", while Stemple provides three possible definitions, each with its own criteria. One definition describes the speaker's voice differing from the voices of others within their culture, age, range, etc. The second states that a VD may be present when deviant characteristics of voice draw attention to the speaker. The third definition by Stemple16describes both physical and functional aspects of voice, suggesting that a VD may be present when there are problems with the structure, the function or both of the laryngeal mechanism. This shows that there is no absolute criterion for formal or disordered voice.

Many researchers have studied the prevalence of a voice disorder amongst the occupational group. Angellilo, Maio, Costa and Barrilar (2009) studied Prevalence of occupational voice disorders in teachers and non teachers in Italy. Sample consisted of 504 teachers with (322 were females & 182 males) having age range (24 and 62 years) and 158 of same age group as of the non teachers. The

prevalence of voice problem among teachers was significantly greater in comparison with non-teachers (8.7% vs. 2.9%). As well as the prevalence of voice disorders during their lifetime too (51.4% vs. 25.9%). Women had a higher lifetime prevalence of voice disorders than men. This study confirms that teachers have a higher rate of self-reported voice problems than any other occupations.

Katherine et al 2002, studied the prevalence and risk factors for having a voice disorder among telemarkerters. Their study comprised of 304 employees from 6 firms and found out that telemarketers were twice as likely to report 1 or more symptoms on vocal attrition. Of those surveyed, 31% reported that their work was affected by an average of 5 symptoms.

Behlau, Zambon, Guerrieri and Roy (2011) studied "voice Disorders in Teachers and Non-Teachers in Brazil" and conducted on 1651 teachers' and1614 non-teachers (secretaries, engineers, salesperson, administrators, lawyers, dentists etc). Voice disorder was reported by 11.6% and 7.5%teachers and non-teachers consecutively obtained through self-reported questionnaire which includes voice affecting factors. 63% teacher's and 35.8% of non-teachers reported having experienced a voice problem at some point during their lifetime. Teachers reported a higher number of voice symptoms as compared with non-teachers. Hence, the above studies support that excessive use of the vocal folds can lead to a voice disorder.

Conclusion

The aim of the study was to find out the prevalence of a voice disorder in the occupational group of hawkers. This group is one of the most affected group as they have to work at extreme conditions like traffic, dust, heat as well as in market places where the noise level is high. Moreover these people have to strain their voice for longer periods of time to be sufficiently audible in the presence of noise and dust and also to gain attention over other existing hawkers for an increase gain in their business. This goes on for almost all the year around in all the weather conditions and in all the festive seasons with virtually no rest. This is because these people are dependent on their voice for their daily livelihood. Hence due to these conditions, hawkers are more prone to having a voice disorder. Our main concern is that, the awareness for having a voice disorder in hawkers is almost negligible. They are habituated with their hoarse, rough, strained or creaky voice and do not know that their voice is abnormal or that they are having a voice disorder. They never felt the need to go to a doctor in case of a decrease in voice quality. This could be because a majority of the hawker population belongs to the lower socio-economic group. And their main aim is to satisfy their day to day needs. Another factor which plays a role in the prevalence of a voice disorder is the lifestyle which the hawkers lead. They are addicted to tobacco and alcohol for a long period of time which also adversely affects the vocal folds leading to a voice problem. Also they do not maintain any vocal hygiene and always strain their voice for no specific use and have conversations at high intensity. One condition which was seen during our results was that, females are more susceptible to a voice disorder.

Implications of the Study

This study will create awareness in the hawkers about their vocal loading per day which often leads to voice disorders. This study supports the need for proper vocal hygiene. Professional voice users do not get any compensation, leave, or medical expenses for treatment. The findings of this study may be very helpful for bringing about changes in provisions for hawkers.

Limitations of the Study

The study has not taken equal number of males or females. The study has been conducted only over in Mumbai area which can't be related with any other state or area's hawker's voice problem. The study was conducted only over a small number of population of hawkers which cannot be generalized over the entire population of hawkers. The study was based on only interview basis and acoustic and aerodynamic parameters have not been studied.

Future Research Indications

Similar study can be carried out on other professional voice users for early identification of the population who are at risk for developing voice disorders. The study was based on a descriptive questionnaire; further study can be done including acoustic and aerodynamic parameters. More number of hawkers can be taken for study which will give us conclusive overview of the current scenario.

Conflict of Interest: None.

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