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Original Article

Prevalence of Voice Disorders in Telemarketers

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ABSTRACT

Background:

Voice disorders are common complications among the professionals who are using voice as source of communication and earning. Telemarketers are among the professionals who are using voice as source of earning. They are exposed to long hours of working hours. This long exposure time leads to voice abuse and eventually ends up in voice disorders. It is crucial for the professionals to know about the voice disorders, its cause and risk factor. This knowledge will lead to the broad awareness of voice disorders and its prevalence in telemarketers and its managements.

Objectives:

To determine the prevalence of voice disorders in telemarketers and to determine the association behind the voice disorders and the cause/risk factors.

Methodology:

A cross sectional survey was conducted in different telemarketing companies situated in Rawalpindi and Islamabad. 150 telemarketers were included in the study on the basis of inclusion and exclusion criteria. The demographic details of the participants are: male gender, ages between 25 to 35 years of age and work experience 1 year to 5 years with an exposure 10 to 12 working hours. Stratified random sampling technique was used for this study. Semi structured questionnaire was used to collect the data.

Results:

The study showed that there is a high prevalence of voice disorders among the telemarketers of Rawalpindi and Islamabad. The results of the study reveal that 97.8% telemarketers have hoarseness. 89.7% telemarketer report that voice tires or the quality of voice changes.70.7% telemarketers have problem in soft speaking or when they speak loud. 89% of telemarketer have problem with voice range. The association between the cause and risk factor with voice disorders was measured by cross tabulating the values. The results showed significant associations between voice disorders and cause and risk factors. Where the association between use of tobacco and hoarseness yielded a high percentage of 96%, loss of voice range with neck and shoulder pain yielded 86%, pain in neck and shoulder and loss of voice range yielded a percentage of 85%, and speaking more than six hours and pain in neck and shoulder was78%.

Conclusion:

The results indicated high prevalence of voice disorders among the telemarketers which was associated with lack of awareness, its management and long working hours.

Keywords:

Voice disorders, Hoarseness, Telemarketers

INTRODUCTION:

A voice disorder is an abnormality of one or more of the three characteristics of voice: pitch, intensity (loudness), and quality (resonance).'°' The National Institute on Deafness and Other Communication D isorders estimates that approximately 7.5 million persons in the United States suffer from some sort of voice disorder.[3] The negative impact of a voice disorder is often social, psycholog ical, professional, and economic..'°'

There are different types of voice disorders. Foreign accent syndrome.' [s] Bogart—Bacall syndrome, laryngeal papillomatosis, dysphonia, puberphonia.' [5]' Some of the most common causes of voice disorders in adults include infection, inflammation, vocal misuse or abuse,

can ce r, ne uro muscu l ar diso rd e rs , an d psychological problems. [6]

Some disorders of voice quality are related to how the vocal cords function like breathiness hoarseness. Other disorders are related to how the voice resonates in the oral (mouth), nasal (nose), and pharyngeal (throat) cavities like hyponasality and hpyernasality.'"

Regarding the vocal symptoms and voice-related complaints, all the teleoperators reported two or more symptoms, although there were differences in the symptoms and complaints' frequency of occurrence.

A Swedish research group has also reported high er prevalence of cervical and upper extremities disorders in teleoperators, when compared to other professionals who were computer users."' From the 90's on, there has been a growing interest on studies that look for un derstan ding voice chang es related to occupational use."[1] Studies have been trying to estimate the prevalence data of dysphonia and its risk factors in a population with an increased vocal exposure in speech situations, such teachersand, more recently, telemarketers '° '°

A prevalence study carried out in United States assessed the presence of vocal symptoms in telemarketers and in a compared sample by means of a self-administered questionnaire. The prevalence of vocal symptoms found in those groups was 68% and 48%, respectively" [1]

Another study assessed the frequency and magnitude of vocal symptoms in 45 telemarketers working at a call center company in Finland. The symptoms were evaluated over different times during the work hours and the magnitude of the vocal symptoms was measured by a visual analogue scale. The most frequently reported symptoms were hoarseness and perceived phonatory effort [2]

The present study is aimed to highlight the professional challenges faced by telemarketers with reference to their voice problems. The study will evaluate the vocal behavior of receptive telemarketers as well as to associate the results to the variable male gender. The present study explored the prevalence of voice disorders and the impact on their lives. No study has been conducted in Pakistan on prevalence of voice disorders in telemarketers before. The basic aim of the study was to bring the issue in lime light and to put forward recommendations to improve their voice use.

METHODOLOGY:

The purpose of the research was to determine the prevalence of voice disorders in telemarketers in Pakistan. Moreover to determine the association between the cause and risk factors. A cross sectional survey design was selected for the purpose of this research. Stratified random sampling was done. Telemarketers were selected from the call centers of Rawal pindi and Islamabad. A sample size of 150 telemarketers was taken. They were selected on the basis of inclusion and exclusion criteria. Inclusion criteria for the study were male gender, ages between 25 to 35 years of age and work experience 1 year to 5 years with an exposure 10 to 12 working hours.

A semi structured questionnaire was used. It carried medical history and subjective complaint. Both categories had questions which were answered by the participants. The telemarketers were thoroughly briefed about the questionnaire. They were assured of their confidentiality. On the basis of collected data, analysis was done to determine the prevalence of voice disorders and the association between the cause/risk factors and voice disorders.

RESULTS:

The percentage prevalence of the voice problems in telemarketers is summarized in the table below:The next bar charts show cross tabulations of the cause and risk factor with voice disorders, which also show the relationship between them. It seems redundant to give description for each graph separately in this sub section.

TABLE 1: Prevalence of voice problems among telemarketers

Voice Problems	Prevalence (%)	Prevalence Per 1000 Persons
Hoarseness	97.8	978
Voice tires or changes its quality	89.7	897
Trouble speaking softly or loudly	70.7	707
Loss of range of voice	89	890

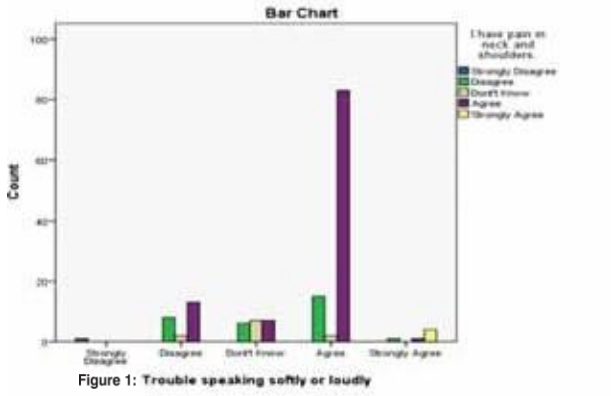

Figure 1: **Trouble speaking softly or loudly**

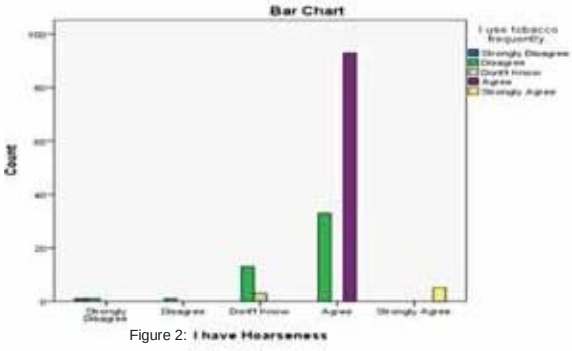

Figure 2: **I have Hoarseness**

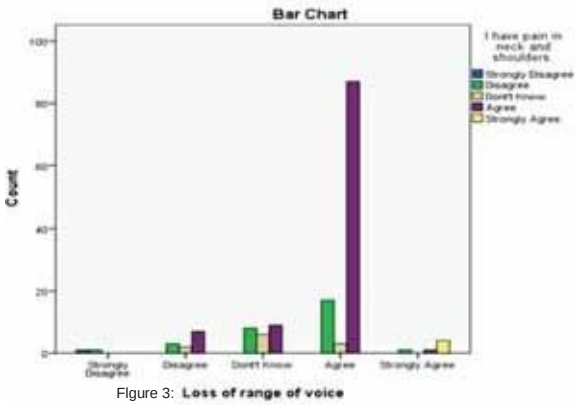

Figure 3: **Loss of range of voice**

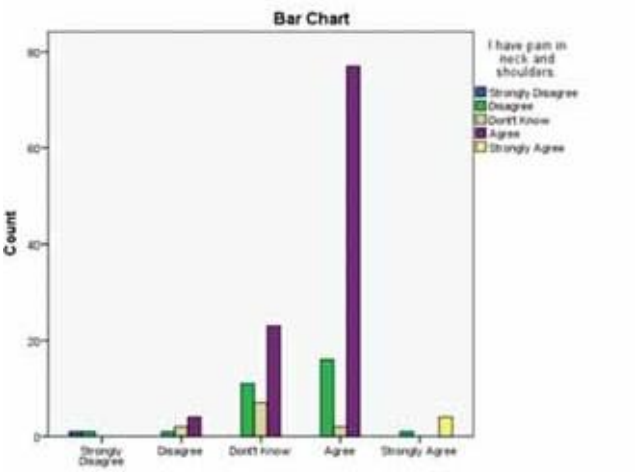

Figure 4: **speak more than 6 hours daily during working hours**

DISCUSSION:

This study examined the prevalence of voice disorders and voice among the telemarketers in Pakistan. We assume that there is an increased prevalence of voice problems among telemarketers as compared with the general population.

The results point out to that out 150 telemarketers from different telemarketing agencies in Islamabad/ Rawalpindi, majority of the teleoperators have voice problems. These findings relate to the excessive use of voice for trading. From the 90's on, there has been a growing interest on studies that look for understanding voice changes related to occupational use.

The main complaint was about hoarseness, voice fatigue followed by the neck and shoulder pain, loss of range of voice. Other voice-related complaints were also mentioned by these professionals, like difficulty in speaking softly or loudly at their work.'[1*]' The complaint about hoarseness reported by the majority of teleoperators may be a result of exposure to air conditioning combined with repeated mouth opening for constant talking.'[1o] The neck and shoulder pain can be due to the incorrect body posture during long periods throughout the workday. It was also in the study that loss of voice range, hoarseness of voice are also significantly

associated with neck and shoulder pain. The use of tobacco is high in telemarketer, also a major cause of the hoarseness of voice. The use of tobacco among telemarketers also contributes in vocal fatigue. The people most commonly affected are those who use tobacco and have poor breath and vocal control." [5,]

CONCLUSION:

It was concluded from the study that voice problem prevail among the telemarketers in Pakistan.

They usually present high indices of vocal symptoms. The most frequent symptom is hoarseness of voice but along with that, other vocal symptoms like vocal fatigue and change in voice quality is also common in telemarketers in Pakistan. It was concluded that tobacco use and prolong speaking time is a major risk factor for developing the voice problem.

RECOMMENDATIONS:

For further pursuing the research, it is recommended that it should be carried out with a larger number of telemarketers working in different telemarketing services in cities all over Pakistan. The results of such studies will allow the development of vocal training programs that are specific to the telemarketer's requirements.

REFERENCES:

1. Jardim, Renata, Sandhi Maria Barreto, and AdaAvita Assuncao. "Voice Disorder: case definition and prevalence in teachers, "Revista Brasilleira de Epidemiologia 10.4 (2007): 625-636.

2. Vilkman E Voice problems at work: a challenge for occupational safety and health arrangement. Folia Phoniatr Logop.2000; 52:120-125.

3. Chan RW, Tayama N. Biomechanical effects of hydration in vocal fold tissues. Otolaryngology Head Neck Surg. 2002;126(5):528-37

4. Titze IR, Svec JG, Popolo PS. Vocal dose measures: quantifying accumulated vibration exposure in vocal fold tissues. J Speech Lang Hear Res. 2003:46(4):919-32.

5. Ferreira LP, Akutsu CM, Luciano P, Viviano NA. Vocal production condition of telemarketing operators: correlation between health and vocal habits and symptoms. Rev Soc Bras Fonoaudiol. 2008; 13(4):307-15.

6. Vilkman E. Voice problems at work: a challenge for occupational safety and health arrangement. Folia PhoniatrLogop. 2000;52(1-3):120-5

7. Vilkman E. Occupational risk factors and voice disorders. Logoped Phoniatr Vocol. 1996; 21(3-4):137-41.

8. Verdolini K, Ramig LO. Review: occupational risks for voice problems. Logoped Phoniatr Vocol. 2001; 26(1):37-46.

9. Rechenberg L, Goulart BN, Roithmann R. Impact of call center work in subjective voice symptoms and complaints--an analytic study. J Soc Bras Fonoaudiol. 2011 Dec; 23(4):301-7.

10."Right Diagnosis: BBS Symptoms". Retrieved 03-09-2013

11. "Recurrent Respiratory Papillomatosis or Laryngeal Papillomatosis™. National Institute on Deafness and Other Communication Disorders. 2011. Retrieved 9 -9-2013.

12. Satalo ff R T. Professional voice users: the evaluation of voice disorders. Occupational medicine (Philadelphia, Pa). 2001; 16(4):633.

13. Sheila V. Stager, Steven A. Bielamowicz. Using Laryngeal Electromyography to differentiate Presbylarynges from Paresis. Journal of Speech, Language, and Hearing Research; 2010:53 100-113

14. Ferreira LP, Akutsu CM, Luciano P, Viviano NA. Vocal production condition of telemarketing operators: correlation between health and vocal habits and symptoms. Rev Soc Bras Fonoaudiol. 2008; 13(4):307-15.

15. Aronson, Arnold Elvin; Bless, Diane M. Clinical Voice Disorders.2009.