



ISSN: 2230-9926

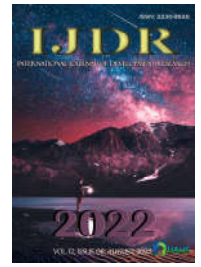
Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research

Vol. 12, Issue, 08, pp. 58339-58342, August, 2022

<https://doi.org/10.37118/ijdr.25132.08.2022>



RESEARCH ARTICLE

OPEN ACCESS

EPIDEMIOLOGICAL PROFILE OF PATIENTS SCREENED IN THE VOICE CAMPAIGN WEEK OVER 10 YEARS IN THE AMAZON REGION OF BRAZIL

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ARTICLE INFO

Article History:

Received 03rd June, 2022
Received in revised form
18th July, 2022
Accepted 21st July, 2022
Published online 30th August, 2022

Key Words:

Disease Prevention, Dysphonia, Neoplasms, Vocal Cord Dysfunction, Laryngopharyngeal Reflux.

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ABSTRACT

Introduction: The voice is one of the main forms of human communication and its abusive or inappropriate use can cause organic and functional lesions of the vocal tract. In this context, the Voice Campaign Week emerges as an important instrument of primary care, since it focuses on prevention, diagnosis and treatment of vocal diseases. **Objective:** Characterize the epidemiological profile of patients seen in the the Voice Campaign Week in a reference service in northern Brazil between 2012 and 2021. **Methods:** Observational study that analyzes patients treated in the Voice Campaign Week. **Results:** Of 1177 patients, 68.9% were female and 2% were suspected of malignant tumors. The average age was 49 years old and the most prevalent age group was 51 to 60 years old, corresponding to 26.6%. The main complaint was hoarseness (74.2%), followed by hawking, odynophagia, dysphonia and dysphagia. Videolaryngoscopy showed signs suggestive of laryngopharyngeal reflux in 67.4%. Only 6.5% of the exams showed no alterations. **Conclusion:** The analysis of patients in the Voice Campaign Weeks from 2012 to 2021 showed a predominance of females aged over 50 years old. Hoarseness was the main reported symptom, while the most prevalent finding was edema and hyperemia of the posterior larynx.

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Citation: Emily Barbosa do Nascimento; Yane Melo da Silva Santana; Samuel Machado do Nascimento et al. "Epidemiological profile of patients screened in the voice campaign week over 10 years in the amazon region of brazil", *International Journal of Development Research*, 12, (08), 58339-58342.

INTRODUCTION

Communication is important for establishing relationships in the human social environment. Voice is one of the main forms of human communication and its abusive or inappropriate use can generate organic and functional lesions of the vocal tract (GUIMARÃES, 2010; LAYLA, 2019; BEHLAU, 2018; FUCCI-AMATO, 2017). According to INCA (2020), laryngeal cancer is the 6th most common cancer in Brazilian men, with an estimated 6,470 new cases in 2020 (INCA, 2020). It is responsible for about 25% of cases of head and neck neoplasms in Brazil and affects mainly men over the age of 55 years (ALGAVE, 2015; SOUZA, 2020; SHARPE, 2019); and is usually associated with smoking, alcoholism and human papilloma virus (HPV) infection (WAGNER, 2015; STEC, 2018; CHEIN, 2021; BOFFETA, 2020). The main symptoms of neoplasms of the larynx include dysphonia (hoarseness), dysphagia and dyspnea

(ALGAVE, 2015; SOUZA, 2020; SHARPE, 2019). These vocal problems can have a significant impact on the patient's quality of life and interfere in social interaction (LOPES, 2018). In this scenario, in 2021, the 21st edition of the National Voice Campaign Week was celebrated, an event held annually with the purpose of prevention and early diagnosis of neoplastic lesions of the larynx (GARRIDO, 2018). Specialized care is offered free of charge at the event, with video laryngoscopy (VDL) as a screening method. Studies using this exam show good accuracy and visualization of laryngeal alterations, especially in dysphonic patients (PAUL, 2012; NGUYEN, 2021; SCHOLMAN, 2021). Few studies were found regarding laryngeal alterations in the northern region of Brazil. Therefore, an epidemiological survey is necessary in order to identify the profile of patients, the most prevalent findings in the imaging and prognosis tests of this population, and generate data that can help in prevention and health promotion activities in the Amazon region. The objective of this study was to characterize the epidemiological profile of

patients screened and submitted to videolaryngoscopy over 10 years during the National Voice Campaign Weeks conducted at an Otorhinolaryngology Referral Center in the Amazon region of Brazil between 2012 and 2021, along with their main complaints and laryngoscopy findings.

MATERIALS AND METHODS

This is an observational, descriptive and cross-sectional study, in which the patient records from the voice campaign week from 2012 to 2021 were analyzed. This research was carried out in the Department of Otorhinolaryngology and Cervical-Facial Surgery of a hospital in the northern/amazon region of the country, where the event takes place annually, and received approval from the Amazonas State University Ethics Committee under the CAAE approval number 92354218.0.0000.0004. The Voice Campaign normally takes place for 3 to 4 days, and has been a regular event during the years 2012 to 2019. During the event, screening tests with videolaryngoscopy and educational lectures are conducted for the general population and for healthcare academics interested in the topics discussed. After the disclosure of the event, passes were provided to be distributed among the population interested in participating in the event, which consisted of a lecture on hygiene and vocal care, a questionnaire for identification and regarding symptomatology, and also videolaryngoscopy. In 2020, the event did not occur due to the SARS-CoV-2 pandemic having reached its epidemiological peak near the date known as World Voice Day (April 16th). At the time, Manaus restrictive measures of social isolation and quarantine were required, which made it impossible to carry out the event.

In 2021, just over a year after the start of the COVID-19 pandemic in Brazil, an entirely online event was held by the service in question, honoring the National Voice Campaign promoted by the Brazilian Society of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF) and the Brazilian Academy of Laryngology and Voice (ABLV). The virtual ceremony took place on April 15th, 2021 via the Zoom Meetings app and had more than 125 participants, among them medical otolaryngologists, speech therapists, laryngeal specialists, resident students of otolaryngology, under graduate health care students. The themes "laryngeal diagnostic methods: examinations and approaches", "phonotraumatic lesions of the larynx" and "surgical methods for the larynx" were presented by otolaryngologists that are specialists in laryngology. The study population consisted of 1177 patients of all age groups, 811 women and 366 men from the public health service who had participated in the Voice Campaign Week and had undergone videolaryngoscopy during the Voice Campaign Weeks from 2012 to 2021. We excluded 234 patients whose care records were incomplete or illegible and those who were not able to perform the examination.

RESULTS

Of a total of 1177 patients who were submitted to videolaryngoscopy during the Voice Campaign from 2012 to 2019, 93.4% (1,100) manifested vocal tract alterations and 69% (811) were female. The sample profile was concentrated in the age group of 51-60 years, with a mean age of 49.09 years (Figure 1). Of the 1177 patients, 38.5% were people who used their voice professionally or abused their voice, 19.3% were smokers and 21.5% were alcohol users, as shown in Figure 2. The most commonly reported vocal complaint in this population was hoarseness, followed by hawking, odynophagia, voice alteration/dysphonia and dysphagia. Globus pharyngeus was the sixth most commonly described alteration by the patients. Other complaints described were snoring, itching in the throat, allergic rhinitis, otalgia, burning in the jugal mucosa, sialorrhea and tinnitus. Figure 3 presents the total number of complaints of people attended in the Voice Campaign Weeks between 2012 and 2019. In Figure 4, we present the prevalence of the findings in the videolaryngoscopy exam. Edema and hyperemia of the posterior larynx were identified in the vast majority of cases (67.4%). In smaller proportions, and in order of frequency, we also visualized glottic cleft, vocal nodules,

paralysis/paralysis of vocal folds and hyperconstriction of the ventricular band and cysts. Among the other findings, the most common were salivary stasis, hypertrophy of lingual papillae, vasculodysgenesis and papillomatosis.

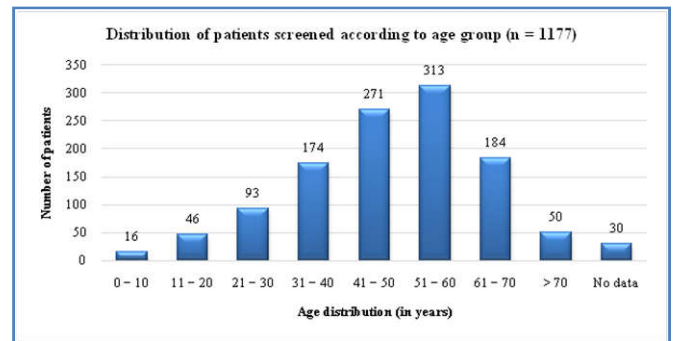


Figure 1. Distribution of patients screened in the Voice Campaign Weeks between 2012 and 2019 according to age group

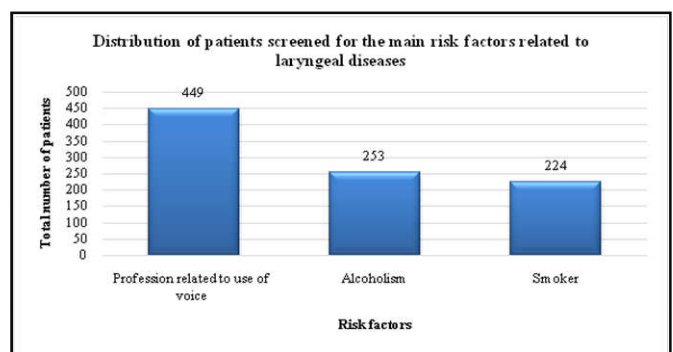


Figure 2. Distribution of patients screened during the Voice Campaign Weeks between 2012 and 2019 showing the main risk factors related to laryngeal diseases

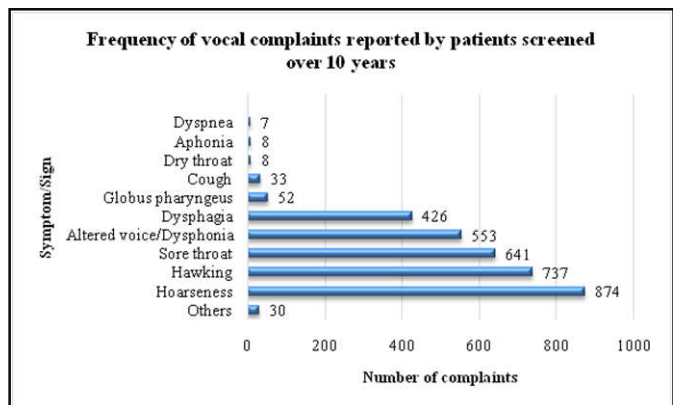


Figure 3. Frequency of voice complaints reported by patients in the Voice Campaign Weeks between 2012 and 2019

The most common cleft in the 10-year study period was the fusiform cleft with more than 56% of cases. It is noted that 2% of the patients submitted to videolaryngoscopy presented a suspected malignant lesion, and only 6.5% of the participants presented no alterations in the exam (Figure 3). Patients who underwent videolaryngoscopy were referred to a specialist or the appropriate treatment site according to the alteration seen in the examination or their needs, as can be seen in Figure 5. Most patients had posterior laryngitis, the main cause of which is laryngopharyngeal reflux. These patients (65.3%) were referred to the reflux outpatient clinic for treatment with proton pump inhibitors and guidelines for changes in eating habits. A total of 25.6% of patients were referred for specialized otolaryngology treatment, and 13.3% were referred to the speech therapist.

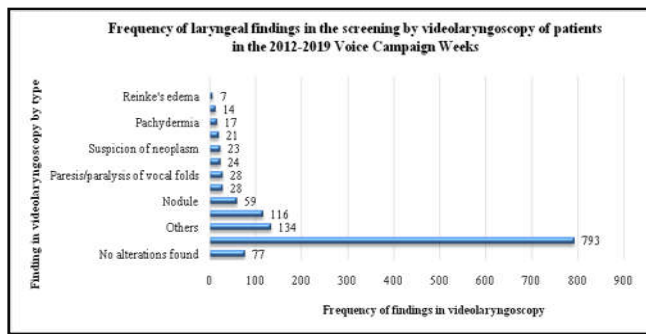


Figure 4. Prevalence of laryngeal findings in the video laryngoscopy exam in patients screened in the Voice Campaign Weeks between 2012 and 2019

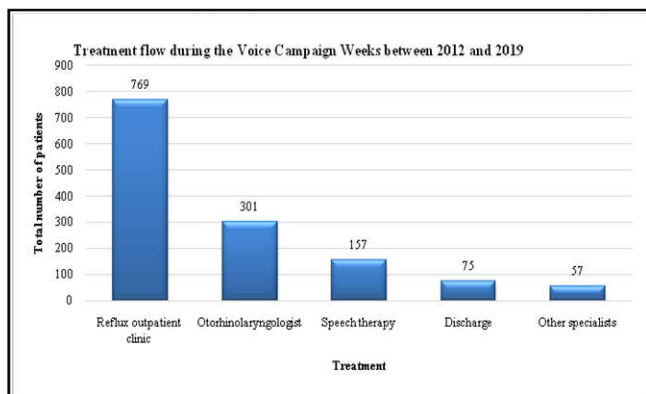


Figure 5. Treatment flow during the Voice Campaign Weeks between 2012 and 2019

Only 4.8% of the patients examined were referred to other specialists for neoplasm investigation and emergency treatment, and 6.4% of patients who were submitted to a videolaryngoscopy examination were discharged from the specialized service.

DISCUSSION

According to Garrido (2018), “the National Voice Campaign, which started in 1999, is the most important event in Brazilian Otorhinolaryngology, and its focus is the early diagnosis of cancer and the detection of vocal alterations.” The Voice Campaign Week is an important tool for prevention and health promotion. It arose from the need to alert the population to the main causes of laryngeal diseases and inform the public about habits that can influence vocal health. In addition, it seeks to promote greater access to specialized services aimed at an early diagnosis of laryngeal diseases (MARTINS, 2017). The study allows us to infer that there is a predominance of females in the search for health services. This difference between the sexes in relation to care is corroborated by several studies that demonstrate the greater demand for outpatient care by the female sex. The reason for this discrepancy is related to a social and cultural context (DILÉLIO, 2014; LEVORATO, 2014). Dysphonia represented by hoarseness is the most frequent form of vocal disorder (GUIMARÃES, 2010). Other fairly common symptoms are hawking, odynophagia, voice alteration/dysphonia and dysphagia (JESUS, 2020; FERREIRA, 2019; SOUZA, 2014). Our study reaffirms hoarseness as the main vocal complaint and highlights the importance of other vocal alterations such as hawking, odynophagia, voice alteration and dysphagia due to their high prevalence in this population (Figure 3). Laryngopharyngeal reflux (LPR) is an important cause of vocal symptoms. Hoarseness, wheezing, globuspharyngeus and dysphagia are complaints that are often associated with this disease (BARBOSA, 2008). Figure 4 shows the high prevalence of posterior laryngitis, the main cause of which is laryngopharyngeal reflux. These data are in accordance with regional studies that relate these high indices of LPR, since the diet of the

region is rich in fried foods, manioc flour, chilli pepper, coffee and soft drinks. In addition, the data also show an association of LPR with other conditions such as glottic cleft and polyps (BARBOSA, 2008). The recommended treatment is the use of proton pump inhibitors and changes in lifestyle (NUNES, 2017). In a similar study conducted in Goiânia, Brazil, the frequency of suspected malignant lesions was 0.8%, while in our study the prevalence was more than double (2%). This information differs from the data on laryngeal cancer from the INCA 2020 estimate, in which in the northern region 0.54 cases/100 thousand are estimated among women and in the mid-western region 1.30 cases/100 thousand (INCA, 2020). These data highlight the importance of the Voice Campaign Week, since it is an effective practice in the early diagnosis of laryngeal diseases, including laryngeal neoplasms, which, through a multidisciplinary approach and appropriate treatment, can bring better quality of life and vocal quality to the patient. In addition, the event also has the function of guiding and stimulating the population in relation to voice care in the prevention and management of vocal pathologies, while also recognizing the peculiarities of each region of Brazil.

CONCLUSION

The analysis of the profile of the patients submitted to videolaryngoscopy in the Voice Campaign Weeks from 2012 to 2021 showed a predominance of females (69%) and an age group over 50 years. Hoarseness (79.4%) was the main symptom reported. Among these patients, 793 (65.3%) were diagnosed with laryngopharyngeal reflux and 23 (2%) had suspected malignant lesions. In patients with suspected malignant lesions, 56.5% were smokers and 43.5% were had problems related to alcohol use. In addition, the report draws attention to the significant number of videolaryngoscopy examinations with alterations (93.5%), despite the fact that many of people who were attended during the campaign not reporting complaints. Thus, there is a need to reinforce annual follow-up of patients by the otorhinolaryngologist.

Acknowledgements: We thank FAPEAM for encouraging and funding scientific initiation in the Amazon region of Brazil.

REFERENCES

- Algave DP. Quality of life in total laryngectomy patients: an analysis of different assessment tools. *Rev CEFAC*. 2015;17:58–71.
- Barbosa AB, Barberena S, Lucas K, Barbosa P, Ribeiro DS. Manifestações Laringeas do Refluxo Laringo-faríngeo e suas Relações com Hábitos Alimentares Manauenses. *Arq Int Otorrinolaringol*. 2008; 12:55–61.
- Behlau M, Pontes P, Moreti F. Higiene vocal: cuidando da voz. 5. ed. Rio de Janeiro: ThiemeRevinter Publicações LTDA; 2018.
- Boffetta P, Donato, F. Occupational Risk Factors of Laryngeal Cancer. In *Occupational Cancers 2020*; pp. 193-204 Chen YY, Kao TW, Wang CC, Chen YJ, Wu CJ, Lai CH et al. Polycyclic aromatic hydrocarbon metabolites and mortality risk in an adult population. *Environmental Geochemistry and Health* 2021; 43(1), 37-45.
- Dilégio A *et al*. Padrões de utilização de atendimento médico-ambulatorial no Brasil entre usuários do Sistema Único de Saúde, da saúde suplementar e de serviços privados Patterns in the use of outpatient care in Brazil by patients treated through the Brazilian Unified N. *Cad Saúde Pública*. 2014;30(12):2594–606.
- Ferreira LP, Constantini AC, Nemr K. DETERMINANTES DOS DISTÚRBIOS DE VOZ E A ANAMNESE NA CLÍNICA VOCAL. *Fundamentos e Atualidades em Voz Clínica* 2019.
- Fucci-Amato RC. Manual de saúde e técnica vocal: teoria e prática da voz para professores, artistas e comunicadores. 2. ed. São Carlos : J. A. Consultores, 2017. 206 p. ISBN: 978-85-94490-00-1.
- Garrido T, Pinheiro L. 20th National Voice Campaign. *Braz J Otorhinolaryngol* 2018; 1–2.

- Guimarães VC, Viana MAD, Barbosa MA, Paiva ML, Tavares J. Cuidados vocais: questão de prevenção e saúde. *Cien Saude Colet.* 2010; 15:2799–803.
- INCA. Estimativa 2020: incidência de câncer no Brasil, 2020.
- Jesus MTAD, Ferrite S, Araújo TMD, Masson MLV. Distúrbio de voz relacionado ao trabalho: revisão integrativa. *Revista Brasileira de Saúde Ocupacional* 2020; 45Layla CM, Ângela MAS, Dayse Kelle NR, Sônia R. Estudo Epidemiológico dos pacientes submetidos à videolaringoscopia durante a Campanha da Voz no Amazonas. *Revista de Ciências da Saúde da Amazônia* 2019; [S.l.], n. 1, p. 47-56, nov. 2019. ISSN 2447-486X.
- Levorato CD, Nunes AA. Fatores associados à procura por serviços de saúde numa perspectiva relacional de gênero Factors associated with the demand for health services from a gender-relational perspective. *Ciênc saúde coletiva.* 2014;1263–74.
- Lopes MCLA, Fagundes SN, Mousinho KC, Correia MGC, Ribeiro CMB, Vanderlei AD. Fatores associados à saúde vocal e a qualidade de vida em professores *Rev. CEFAC* 2018 Jul-Ago; 20(4):515-531.
- Martins AIB. Dia mundial da voz: o impacto em saúde pública da prevenção das patologias da laringe (Doctoral dissertation) 2017.
- Nguyen DD, Madill C, Chacon A, Novakovic D. Laryngoscopy and Stroboscopy. In *Manual of Clinical Phonetics* 2021; pp. 282-305.
- Nunes FS. Refluxo Laringo-faríngeo – As nuances em ORL e a sua relação com o Tabaco. Universidade de Lisboa, 2017.
- Paul B *et al.* Diagnostic Accuracy of History, Laryngoscopy, and Stroboscopy. *Laryngoscope.* 2012;123:214–9.
- Scholman C, Westra JM, Zwakenberg MA, Dikkers FG, Halmos GB, Wedman J *et al.* High-definition videolaryngoscopy is superior to fiberoptic laryngoscopy: a 111 multi-observer study. *European Archives of Oto-Rhino-Laryngology* 2021; 1-6.
- Sharpe G, Costa VC, Doubé W, Sita J, McCarthy C, Carding P. Communication changes with laryngectomy and impact on quality of life: a review. *Quality of Life Research* 2019; 28(4), 863-877.
- Souza *et al.* Quality of life after total laryngectomy: impact of different vocal rehabilitation methods in a middle income country. *Health and Quality of Life Outcomes* 2020; 18, 1-12.
- Souza LFDE. Perfil Epidemiológico dos Pacientes com Disfonia do Hospital Universitário da UFSC; 2014.
- Stec AA, Dickens KE, Salden M, Hewitt FE, Watts DP, Houldsworth PE *et al.* Occupational exposure to polycyclic aromatic hydrocarbons and elevated cancer incidence in firefighters. *Scientific reports* 2018; 8(1), 1-8.
- Wagner M, Bolm-audorff U, Hegewald J, Fishta A, Schlattmann P, Schmitt J, *et al.* Occupational polycyclic aromatic hydrocarbon exposure and risk of larynx cancer: a systematic review and meta-analysis. *Occup Environ Med.* 2015;72:226–33.
