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Oral lesions diagnosed during oral cancer prevention campaign in Fernandópolis, Brazil, in 2021

Lesões orais diagnosticadas durante a campanha de prevenção do cancro oral em Fernandópolis, Brasil, em 2021

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ABSTRACT

The aim of this study is to describe the lesions diagnosed during the 2021 campaign. Patients who attended the Basic Health Units on the day of the campaign were examined by a previously trained dentist who looked for oral lesions suggestive of oral squamous cell carcinoma or potentially malignant lesions. Patients with suspicious lesions were scheduled for a re-evaluation by an oral disease specialist to obtain a correct diagnosis of the lesions. Eight hundred and forty-nine patients were examined during the campaign. Among them, 39 had oral lesions, 33 attended for re-evaluation and proper diagnosis conducted by the dentist specializing in oral diseases. Of the reassessed patients, 28 (71.79%) were diagnosed with benign oral lesions, while 11 (28.20%) were diagnosed with normal oral variation and none (0%) were diagnosed with malignant lesions. The low rate of oral cancer diagnosis detected during this campaign can be attributed to the lack of oral cancer prevention campaign methodologies, which need to be improved to reach patients at real risk of developing oral cancer. In addition, the diagnosis of benign oral lesions among patients referred with rates of suspicious lesions suggests a lack of knowledge of dental surgeons regarding neoplasms.

Keywords: Mouth neoplasms. Oral health. Primary prevention. Oral cancers. Public health.

RESUMO

O objetivo deste estudo é descrever as lesões diagnosticadas durante a campanha de 2021. Os pacientes que compareceram às Unidades Básicas de Saúde no dia da campanha foram examinados por um dentista previamente treinado que procurou lesões orais sugestivas de carcinoma espinocelular oral ou lesões potencialmente malignas. Pacientes com lesões suspeitas foram agendados para uma reavaliação por um especialista em doenças orais para obter um diagnóstico correto das lesões. Oitocentos e quarenta e nove pacientes foram examinados durante a campanha. Dentre eles, 39 tinham lesões orais, 33 compareceram para reavaliação e diagnóstico adequado conduzido pelo dentista especializado em doenças orais. Dos pacientes reavaliados, 28 (71,79%) foram diagnosticados com lesões orais benignas, enquanto 11 (28,20%) foram diagnosticados com variação oral normal e nenhum (0%) foi diagnosticado com lesões malignas. A baixa taxa de diagnóstico de câncer oral detectada durante esta campanha pode ser atribuída à falta de metodologias de campanha de prevenção do câncer oral, que precisam ser melhoradas para alcançar pacientes com risco real de desenvolver câncer oral. Além disso, o diagnóstico de lesões orais benignas entre pacientes encaminhados com taxas de lesões suspeitas sugere uma falta de conhecimento dos cirurgiões-dentistas em relação às neoplasias.

Palavras-chave: Neoplasias bucais. Saúde bucal. Prevenção primária. Cânceres orais. Saúde pública.

1. INTRODUCTION

Malignant neoplasms of the head and neck region represent 10% of all malignant tumors and about 40% of them occur in the mouth. Oral squamous cell carcinoma (OSCC) is the sixth most common cancer in the world with around 300.000 new cases annually, that accounts for approximately 90% of all oral malignancies, it is an important public health problem worldwide[1,2]. Many patients diagnosed with oral and oropharyngeal cancer have a history of smoking and alcohol consumption, which are the main etiological factors. Further, human papillomavirus (HPV) infection has been associated with development of oropharyngeal cancer [3].

Clinically, OSCC might be recognized by painless ulcers with more than 2 weeks of duration, in the initial stages they are asymptomatic and when there are symptoms, the most frequent are swelling, burning and pain[4]. This disease that affects the oral mucosa and is destructive, affects the quality of life of the human being, produces permanent sequels in the complete oral capacities that psychologically affect the disease, having repercussions on the family and social environment, as well as creating difficulties for several functions such as chewing and speaking[5,6].

Delayed diagnosis of OSCC is determinant for worse survival, five-year survival rates of oral and oropharyngeal cancer are approximately 50%. The majority of patients live for a short time after diagnosis, because the identified late compromising treatment, prognosis, and survival of patients. Early diagnosing this disease is mandatory to improve patients' survival and quality of life[7]. The patients' lack of knowledge about oral solutions and the knowledge of health professionals about a disease make early diagnosis of OSCC difficult. Addressing the risk of prevention of oral potentially malignant disorders (OPMD) is very important for SCC in at-risk populations[8].

In Brazil, oral cancer rates are considered one of the highest in the world. The distribution of incidence by geographical region shows that the South and Southeast regions concentrate 70% of the incidence according to the National Cancer Institute (NCI)[9]. For males, it is the 5th most common cancer, for women 10th position in this population group, the Southeast and South regions have the highest incidence and mortality rates of the disease in this country[10].

The development and dissemination of these campaigns are central actions of the disease control policy, coordinated and partially implemented by the NCI of the Ministry of

Health, in accordance with the guidelines of the World Health Organization (WHO) and the International Union Against Cancer (UICC). These campaigns and programs are based on the medical notion that cancer control is based on two pillars: the encouragement of healthy habits characterized by medicine, which is believed to greatly reduce its incidence, and early diagnosis, which is based on the conception that the earlier the disease is diagnosed, the greater the chances of successful treatment[11].

Campaigns for the Prevention and Early Diagnosis of Oral Cancer are carried out annually, which are educational actions on conscious oral health, self-protection, and the need for care. It includes performing oral examinations and assistance regarding risk factors for OSCC, oral self-examinations and signs and symptoms. Despite many years of oral cancer prevention and control, it still faces some shortcomings, as the rate of late-stage OSCC diagnosed is still high. Therefore, the need for continued research on these issues is a consistent conclusion from published oral cancer prevention studies. Aiming to raise awareness regarding oral cancer among the public, in this report, we describe the oral lesions diagnosed during an oral cancer prevention campaign performed in the city of Fernandópolis, Brazil, in 2021.

2. MATERIAL AND METHODS

This cross-sectional study aimed to evaluate oral diseases diagnosed during an Oral Cancer Prevention Campaign (OCPC) in May 2021 in the city of Fernandópolis, São Paulo, Brazil. Recruitment of patients was carried out by mass communication (radio, newspaper, television, and internet) and by alternative means (folders and banners). In total, 18 Primary Healthcare Centers (PHCs) of Fernandópolis city participated in the study. Dentists performing clinical activities for the Fernandópolis public health service were previously trained by an expert in oral cancer diagnosis professional, who instructed public dentists regarding clinical diagnosis, preventive conducts, and the importance of early diagnosis of oral cancer and oral potentially malignant disorders. Moreover, dentists were encouraged to adequately instruct patients to perform oral self-examination.

Initial patients' examination consisted of a free oroscopy performed by dentists who participated in the calibration. This examination aimed to detect lesions in the oral mucosa and to instruct the individuals regarding risk factors for oral cancer occurrence and the importance of self-examination for oral cancer early detection. Visual examination has

demonstrated great value for preventive oral cancer programs and public health campaigns. Patients who presented with malignant or potentially malignant suspicious oral lesions over oral mucosa during the day the prevention campaign was performed were referred to the Fernandópolis Dental Specialties Center (DSC), where they were reevaluated by the professional responsible for the oral pathology service of the center. The present research was approved by the Research Ethics Committee – n°. CAAE: 02742112.6.0000.5494.

Therefore, the right diagnosis was obtained for each patient. Data was transferred to an electronic tabulation program and variables of interest data were obtained using the program Epi Info version 7.1.5.0, which is proposed by the Centers for Disease Control and Prevention.

3. RESULTS AND DISCUSSION

A total of 849 patients were examined during the Oral Cancer Prevention Campaign performed in Fernandópolis. Of those, 39 (4.59%) were referred to the DSC for reassessment and appropriate approach. Despite the orientation and awareness about the importance of early diagnosis of oral cancer, only 33 (3.88%) patients attended for reevaluation. Among the 39 reassessed patients, none (0%) were diagnosed with oral cancer or another malignant lesion, 6 (14.29%) were diagnosed with potentially malignant disorders, 25 (59.52%) were diagnosed with oral benign lesions, whereas 11 (26.19%) were diagnosed with normal oral variation (Table 1).

Table 1: Examined patients and diagnosis, Oral Cancer Prevention Campaign, Fernandópolis, São Paulo, Brazil, 2021.

Patients	***n°***	***%***
Examined	849	100
Forwarded for re-evaluation	39	4.59
Re-evaluated	33	3.88
Diagnosis	***n=42***	***%***
Malignant lesions	0	0

Potentially malignant disorders	6	14.29
Benign lesions	25	59.52
Normality variations	11	26.19

Source: Prepared by the authors.

Table 2 summarizes the potentially malignant disorders and the oral benign lesions diagnosis frequency during oral cancer prevention campaign performed in Fernandópolis, SP, Brazil, 2021. Of the potentially malignant disorders diagnosed in the campaign (n=6), the most prevalent was the oral leukoplakia (66.67%), followed by actinic cheilitis (33.33%). Among oral leukoplakia and actinic cheilitis lesions diagnosed, no one showed any degree of dysplasia. Among the total of oral benign lesions diagnosed (n=25), the most prevalent was fibrous inflammatory hyperplasia, followed by fibroma, and recurrent aphthous stomatitis. Burning mouth syndrome, papiloma, hemangioma, histoplasmosis, mucocele and pigmented nevus were less frequent among benign lesions.

Table 2: Oral potentially malignant disorders and oral benign lesions diagnosis.

Oral potentially malignant disorders	***n°***	***%***
Oral leukoplakia	4	66.67
Actinic cheilitis	2	33.33
Benign lesions	***n°***	***%***
Fibrous inflammatory hyperplasia	6	24.00
Fibroma	4	16.00
Recurrent aphthous stomatitis	4	16.00
Oral candidiasis	3	12.00
Lip herpes	2	8.00
Burning mouth syndrome	1	4.00
Papilloma	1	4.00

Hemangioma	1	4.00
Histoplasmosis	1	4.00
Mucocele	1	4.00
Pigmented nevus	1	4.00
Total	***31***	***100***

Source: Prepared by the authors.

Among oral normal variations diagnosed during oral cancer prevention campaign (n=11), geographic tongue and racial melanocytic pigmentation were the most prevalent, as described in table 3.

Table 3: Oral normality variations diagnosis.

Normality variations	***n°***	***%***
Geographic tongue	3	27.27
Racial melanocytic pigmentation	3	27.27
Torus (palatal or mandibular)	2	18.18
Tongue varicosities	2	18.18
Fissured tongue	1	9.09
Total	***11***	***100***

Source: Prepared by the authors.

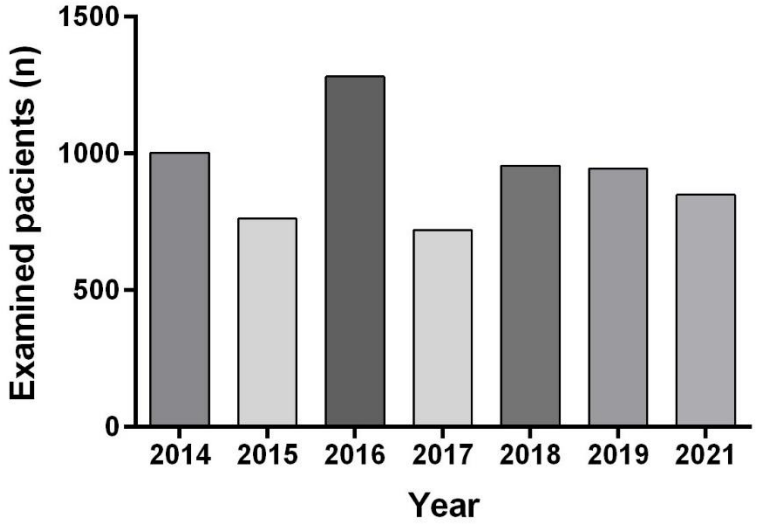
The vast majority of malignancies of the oral cavity and maxillary complex consist of OSCC, corresponding to 90% of cases, with the remainder represented by sarcomas, melanomas and malignant tumors of the salivary glands. OSCC thus represents the most serious case of neoplasms that affect the oral cavity, resulting in many patient deaths, because the lack of information leads to delays in seeking medical or professional services.

The late diagnosis may be related to several factors, including population misinformation, lack of vigilance of health professionals for the early diagnosis of cases, and lack of comprehensive programs in public and private health services that facilitate cancer detection[12].

The intention of these campaigns is to identify cases at an early stage, so that therapeutic interventions can be beneficial, both in terms of survival and quality of life, and thus provide a better prognosis for the patient[13]. Unfortunately, in Brazil, the identification rate of initial malignant lesions in the mouth is very low, corresponding to less than 10% of the diagnosed cases[13,14]. In the present, we believe that the diagnosis of none OSCC from 849 screened patients may reflect that the real at-risk population was not reached. Methods for recruiting these patients for oral examination must be improved.

Estimated that the population of the municipality of Fernandópolis is 69.680 inhabitants according to the Brazilian Institute of Geography and Statistics (IBGE)[15], that is, only 1,21% of the population attended the oral cancer prevention campaign in 2021. There was a drop of approximately 11% of patients examined compared to the last two years of the campaign, 2019 and 2018 (Graphic 1). Due to the pandemic caused by the new coronavirus, in 2020 the prevention campaign was not carried out. This fact may also be linked to the decrease in the attendance of the population, which in the year 2021 was still afraid of the contamination of the disease.

Graphic 1: Patients who attended Oral Cancer Prevention Campaign in the last 8 years.



Source: Prepared by the authors.

Although 2017 had the lowest number of people examined (720 patients), it was the year with the highest diagnosis of OSCCs, totaling 3 patients[16]. The 2014, 2015 and 2016 campaigns had one diagnosis each, while the last three campaigns had no diagnosis of malignant lesions[16–21]. However, the real at-risk population still needs to be assessed, since six patients were diagnosed with OSCC at the DSC throughout the year 2021 in the municipality of Fernandópolis.

Despite the importance of the general population awareness regarding OSCC and OPMD risk factors and symptoms, the awareness, knowledge, and capacity of recognizing and diagnosing these lesions of the healthcare providers are described as deficient in most studies and need to be assessed[22]. Although the number of forwarded for re-evaluation has also decreased compared to the others. Furthermore, we must obtain more information from these patients, such as sex, age and habits[23,24].

Careful physical examination of the mouth favors the identification of precursors or initial lesions of this pathology, although complementary exams are necessary for diagnostic conclusions, such as biopsy[14]. The first step is to investigate and implement methods to raise awareness of this at-risk population, so they would be more likely to respond to calls for oral cancer screening. On the other hand, we observed that 39 patients were referred for re-evaluation by a specialist due to suspicious lesions and 33 attended for final diagnosis.

The high rates of unnecessary referrals suggest that these professionals failed to differentiate high-risk lesions from benign conditions. Benign conditions and variations in normality are of unquestionable importance to dental practice. However, with respect to OSCC prevention, OPMDs are more relevant due to their malignancy aspect.

4. CONCLUSION

Within the limitations of this study, the following conclusions can be drawn. More than just population screening in prevention campaigns, access to the population at risk for oral cancer needs improvement. Awareness and education strategies regarding risk factors, self-examination, and symptoms of OSCC need to be implemented for this population. Dentists are not prepared to recognize and diagnose either oral squamous cell carcinoma or potentially malignant oral disorders, so the Public Health System should invest in training

these professionals. The deficiencies faced in the present campaign need to be better understood, so that we can propose and implement improvements.

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