

ACTINIC CHEILITIS: EPIDEMIOLOGICAL STUDY AMONG RURAL WORKERS

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ABSTRACT: To identify the epidemiological aspects of AK in rural workers, 60 patients, residents of rural areas, over 18 years of age, who perform or have performed work activities with exposure to solar radiation participated in this research. Aspects such as sex, sun exposure, literacy level (divided into literate and non-literate), use of lip sunscreen, smoking, alcohol consumption and clinical characteristics were evaluated. Sixty individuals were examined between October and December 2021, 45 (75.0%) were male and 15 (25.0%) were female. As for sun exposure, 38 (63.3%) were exposed to the sun for an average of 8 hours a day, and only 17 individuals (28.3%) used lip balm. The remaining 71.6% do not use and have never used lip balm. Regarding smoking and alcohol consumption, 22 (36.7%) used cigarettes daily, and 14 (23.3%) used alcohol frequently. The literacy level of the individuals examined is high, where most individuals (80.0%) have completed elementary school. These data reveal a relationship between the accumulated working time outdoors and the presence of the pathology, highlighting the need to raise awareness of the use of sun protection and awareness campaigns for the Prevention of Oral Cancer.

Keywords: Cheilitis. Oral Pathology. Solar Radiation. Precancerous Conditions.

RESUMO: Para identificar os aspectos epidemiológicos das QAs em trabalhadores rurais, participaram desta pesquisa 60 pacientes, residentes na zona rural, maiores de 18 anos, que exercem ou exerceram atividades laborais com exposição à radiação solar. Foram avaliados aspectos como sexo, exposição solar, nível de alfabetização (dividido em alfabetizado e não alfabetizado), uso de protetor solar labial, tabagismo, etilismo e características clínicas. Sessenta indivíduos foram examinados entre outubro e dezembro de 2021, sendo 45 (75,0%) do sexo masculino e 15 (25,0%) do sexo feminino. Quanto à exposição solar, 38 (63,3%) se expunham ao sol em média 8 horas por dia, e apenas 17 indivíduos (28,3%) faziam uso de protetor labial. Os 71,6% restantes não usam e nunca usaram protetor labial. Em relação ao tabagismo e etilismo, 22 (36,7%) faziam uso diário de cigarro e 14 (23,3%) faziam uso frequente de álcool. O nível de alfabetização dos indivíduos examinados é alto, onde a maioria dos indivíduos (80,0%) possui ensino fundamental completo. Estes dados revelam uma relação entre o tempo acumulado de trabalho ao ar livre e a presença da patologia, evidenciando a necessidade de sensibilização para o uso de proteção solar e campanhas de sensibilização para a Prevenção do Câncer Oral.

Palavras-chave: Queilite. Patologia Bucal. Radiação Solar. Condições Pré-Cancerosas.

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INTRODUCTION

Actinic Cheilitis (AK) is a pre-malignant lesion caused by chronic exposure to the sun. It is more common in the lower lip along the vermilion border.¹ The lesion develops slowly without the patient's perception, and may progress to squamous cell carcinoma of the lip. Its slow progression leads people with this lesion to believe that its clinical aspect is related to the natural aging process, ignoring its evolutionary and carcinogenic nature of the lesion.²

Histologically, AK is generally characterized by an atrophic stratified squamous epithelium and may show marked keratin production and dysplastic changes. The connective tissue shows an infiltrate of mild chronic inflammatory cells, as well as a bundle of amorphous and acellular basophilic changes known as solar elastosis, an alteration of collagen and elastic fibers induced by UV light.²

This injury is associated with chronic exposure to ultraviolet light. It most frequently affects males, with fair skin and over 40 years of age.³ The intensity and duration of sun exposure, whether or not associated with drinking and/or smoking habits, are directly related to the probability of malignancy. injury⁴, which can be clinically classified as acute and chronic.

The acute form is characterized by edema, erythema, blistering followed by crusting. It is caused by acute exposure to the sun, that is, high rates of radiation in a short period of time. Clinical resolution of these changes is possible with the interruption of the etiologic agent.⁵

In the chronic form, the clinical manifestations are more severe and irreversible. It is caused by cumulative and prolonged exposure to ultraviolet rays. It presents clinically as a resected, fissured and diffuse lesion. In this lesion, there is loss of the limit between the labial semimucosa and the skin, in addition to local edema and erythema, hyperkeratotic desquamation, leukoplakia, inflammatory areas together with erosions and ulcerations that partially or totally affect the vermilion area of the lip may occur.⁵

Generally, there are no symptoms involved with the disease and patients consider the changes in the lip as natural aging, which can postpone the search for specialized care and make the diagnosis late.⁶ A higher occurrence of AK is observed in rural workers, due to the excess of solar radiation during work and the absence of

the use of protection methods.^{6,7} Thus, the therapeutic approaches should aim to prevent the malignant transformation of the AK.

Conservative treatment should be the treatment of choice when histological examination does not demonstrate epithelial atypia, that is, acute AK. So, the treatment would be to encourage the patient to use a hat and sunscreen, as well as periodic clinical follow-up for control.⁶ However, when atypia is revealed in the histological examination, the total removal of the lesion is necessary, for this, it can be cryotherapy, cold scalpel surgery, electrocautery and laser therapy should be used.²

Carrying out studies on the epidemiological, clinical and histopathological aspects of AK becomes important, as this lesion is frequent in populations exposed to risk factors and has the potential for malignancy. In addition, epidemiological studies diagnosed in a given region allow for greater knowledge, better assessment of its risks and direction of clinical management.⁵

Another important factor is that, in dental practice, the professional is duly trained, since the dentist is responsible for the prevention, diagnosis, treatment and maintenance of this clinical condition, endowed with the necessary knowledge for this type of disease, since the lesions apparently simple can respond by potentially progressing to cancer.⁶

This work is justified by the importance of identifying the clinical characteristics of AK and its means of early treatment by dentists in the evaluated region. In addition, it is justified by the importance of the use of preventive measures by rural workers in order to avoid the possibility of future complications, identifying epidemiological aspects, measuring the habit of using sun protection and identifying the degree of knowledge of rural workers regarding to the risks of sun exposure without adequate protection from solar radiation.

METHODS

This research was approved by the Research Ethics Committee of the Instituto de Ciência e Educação de São Paulo, CAAE: 47052727.7.000.5494, and the patients' personal information was kept confidential. Participated in this research 60 patients, residents of the rural area, of both genders, over 18 years of age, who perform or have performed work activities with exposure to solar radiation.

Aspects such as gender, sun exposure, literacy level (divided into literate and non-literate), use of lip sunscreens, smoking, alcohol consumption and clinical characteristics were evaluated. Individuals who reported tobacco consumption, in any form, at least once a day, were considered smokers, and patients who reported using any type of alcoholic beverage daily were considered alcoholics.

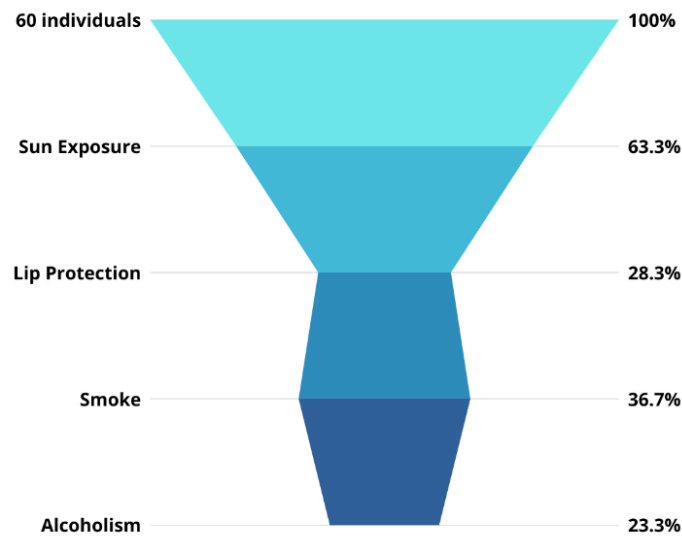
The criteria used to determine the presence or absence of AK were characterized as follows: absence of manifestation; mild AK (presence of mild scaling and edema); moderate AK (presence of erythema, fissure, light red/white areas, along with more pronounced swelling and scaling); Severe AK (in addition to mild and moderate characteristics, presence of erosion, crust, more accentuated red/white areas, leukoplakia and atrophy) and all cases were performed by a single examiner.

Suspected cases that required confirmation of diagnosis through biopsy were referred to specialized care for diagnosis and treatment of oral lesions in the region.

RESULTS AND DISCUSSION

The region is located in the northwest of the state of São Paulo, has a population of 69,116 inhabitants, an area of 549,797 km² and an average annual temperature of 24.1 °C. The income that moves the commerce and services sector of the municipality comes from agriculture. The agricultural production of the municipality and region is concentrated in temporary crops, with ample emphasis on the cultivation of sugarcane, representing about 44% of the total cultivated area. Among permanent crops, orange and other citrus are responsible for most of the value generated. Beef and dairy cattle farming is also of great importance to the region, activities that together reached more than 23% of the total value of agricultural production.

Sixty individuals were examined between October and December 2021, 45 (75.0%) of whom were males and 15 (25.0%) were females. As for sun exposure, 38 (63.3%) were exposed to the sun for an average of 8 hours a day, and only 17 individuals (28.3%) used lip balm. The remaining 71.6% do not and have never used lip balm. Regarding smoking and alcohol consumption, 22 (36.7%) used cigarettes daily, 14 (23.3%) of whom used alcohol frequently. The literacy level of the individuals examined is high, where most individuals (80.0%) have at least completed high school.



Graph 1. Results obtained through the individuals served.

Evaluating the characteristics of this population, aiming mainly at the implementation of preventive methods for oral diseases with the potential for malignancy, a study on the habits of sun exposure and the presence of AK becomes essential. Of the evaluated workers, 18 (30.0%) had a mild to severe degree of AK, which becomes more worrying when only 17 individuals (28.4%) reported using lip sun protection. rural workers for the use of straw hats and caps as a form of protection from exposure to the sun.

The prevalence of AK showed a significant association with male gender, age between 35 and 45 years, time of daily exposure to solar radiation of approximately 8 hours a day, smoking habit and skin phototypes I and II. These data tend to believe that there is a relationship between the accumulated working time outdoors and the presence of the pathology in question.

This greater dominance of AK in men is explained by the greater exposure to solar radiation from professional outdoor activities and the lack of sun protection measures. All this contributes to the development of chronic lip lesions.⁸ However, women have particularities that justify this lower predisposition to AK, among them, the higher frequency of use of sunscreen lipsticks and other protective measures, lower percentage of workers outdoors free or lower retirement age than men.

Harmful habits such as smoking and/or drinking were also analyzed. Cigarette placement on the lip and continuous exposure to heat generated by smoke seem to potentiate lip changes induced by chronic exposure to solar radiation, also increasing the likelihood of malignant degeneration due to the synergistic action of various carcinogens.^{9, 11} Although there is no consensus on the influence of alcohol on the development of AK due to the difficulty of adequately quantifying this parameter, alcohol consumption and other factors, especially smoking, favor the development of these labral lesions.^{8, 12} It is important to discourage smoking, especially among people exposed to more than one risk factor involved in lip and oral carcinogenesis.^{10, 12}

Likewise, sun exposure for more than 4 hours a day is directly associated with an increased risk of AK, especially in those who do not use sunscreens.¹⁰ Previous studies^{9,10,11} that estimated the number of hours confirmed this increased risk of AK. as the number of hours of sun exposure increases, that is, the tissue damage induced by sun exposure is cumulative, showing the chronicity of the lip lesion.^{11, 12, 13}

Furthermore, the literature corroborates differences regarding skin phototype. Thus, it is possible to notice that the lower the skin phototype (Fitzpatrick I-II), the lower the concentration of melanin at the level of the basal layer of keratinocytes, the natural pigment with a protective effect against UV radiation.⁸ Demonstrating to individuals the importance of knowing your own phototype, in order to protect your skin from UV rays, avoiding redness, burns, blisters, aging and the emergence of pathologies with AK.^{9,10, 13}

It is difficult to assess some parameters, such as harmful habits, due to the subjective underestimation performed by patients. In addition, accurate quantification of time and intensity of sun exposure is also complicated, even more so when this is the etiological factor.

CONCLUSION

The data obtained in this epidemiological research justify the need to raise awareness of the use of sun protection, not only for affected patients but also for those belonging to the risk group, with health professionals, especially dentists, responsible for the diagnosis, prevention and treatment of this and other oral diseases, as well as

alerting the city's public authorities about Oral Cancer Prevention awareness campaigns.

The research also showed that even people having a high literacy rate, the information provided by health professionals is not enough to raise awareness of the prevention of actinic cheilitis.

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