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Larissa Stefhanne Damasceno De Amorim Póvoa

Análise de sobrevida e avaliação de estratégias de enfrentamento em pacientes com carcinoma espinocelular oral

Governador Valadares
2024

Larissa Stefhanne Damasceno de Amorim Póvoa

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Dissertação apresentada ao Programa de Pós-Graduação em Ciências Aplicadas à Saúde, da Universidade Federal de Juiz de Fora, Campus Governador Valadares, como requisito parcial à obtenção do título de Mestre em Ciências Aplicadas à Saúde, área de concentração Biociências.

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Orientadora: Profa. Dra. Sibele Nascimento de Aquino

Coorientador: Prof. Dr. Rafael Binato Junqueira

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BANCA EXAMINADORA

Profa. Dra. Sibele Nascimento de Aquino - Orientadora e presidente da banca

Universidade Federal de Juiz de Fora

Prof. Dr. Víctor Hugo Toral Rizo

Facultad de Odontología de la
Universidad Autónoma
del Estado de México

Profa. Dra. Maria Eliza da Consolação Soares

Universidade Federal de Juiz de Fora

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RESUMO

O câncer de boca é um problema de saúde pública mundial. Em 2021, cerca de 170.000 pessoas morreram devido à doença. Embora avanços no diagnóstico e tratamento tenham ocorrido nas últimas décadas, a taxa de sobrevida em 5 anos de pacientes com câncer de boca não aumentou significativamente. A elevada incidência de pacientes com carcinoma espinocelular oral (CEC) diagnosticados em estágios avançados destaca a necessidade de estudos sobre os fatores relacionados ao diagnóstico tardio e à sobrevida. Este estudo, dividido em dois artigos, avaliou fatores relacionados à sobrevida e ao atraso no diagnóstico do paciente. O primeiro artigo é uma pesquisa transversal e retrospectiva que avaliou fatores associados à sobrevida de pacientes com CEC atendidos no Núcleo de Especialistas em Oncologia (NEO) de Governador Valadares. Foram incluídos 600 pacientes diagnosticados entre 2009 e 2021. As taxas de sobrevida global, relacionada à doença e livre de doença foram de 41,2%, 40,4% e 77,1%, respectivamente. Na análise multivariada, tabagistas, ex-fumantes, presença de invasão linfonodal e mais de 2 meses entre a primeira consulta e o tratamento foram identificados como fatores prognósticos independentes. O segundo artigo é uma pesquisa qualitativa que analisou o conhecimento associado ao diagnóstico de CEC e as estratégias de enfrentamento dos pacientes diante das manifestações da doença. A amostra foi composta por 15 pacientes com idades entre 52 e 80 anos (média de 64,5, DP ± 7,5). Os resultados mostraram quatro estratégias de enfrentamento que causam atraso na procura de ajuda: 1) automedicação, 2) procura de consultas médicas, 3) abandono de consultas e 4) consulta com dentistas generalistas. Conclui-se que os trabalhos fornecem uma maior compreensão sobre os mecanismos envolvidos no atraso do diagnóstico e traçam um panorama da sobrevida do CEC em uma região do interior do Brasil.

Palavras-chave: Câncer oral. Carcinoma espinocelular oral. Taxa de sobrevida. Diagnóstico tardio.

ABSTRACT

Oral cancer is a global public health problem. In 2021, approximately 170,000 people died due to the disease. Although advances in diagnosis and treatment have occurred in recent decades, the 5-year survival rate of oral cancer patients has not significantly increased. The high incidence of patients with oral squamous cell carcinoma (OSCC) diagnosed in advanced stages highlights the need for studies on the factors related to late diagnosis and survival. This study, divided into two articles, evaluated factors related to survival and delays in patient diagnosis. The first article is a cross-sectional and retrospective study that evaluated factors associated with the survival of patients with OSCC treated at the Oncology Specialist Center (OSC) in Governador Valadares. A total of 600 patients diagnosed between 2009 and 2021 were included. The overall survival, disease-related survival, and disease-free survival rates were 41.2%, 40.4%, and 77.1%, respectively. In the multivariate analysis, smoking, being a former smoker, presence of lymph node invasion, and more than 2 months between the first consultation and treatment were identified as independent prognostic factors. The second article is a qualitative study that analyzed the knowledge associated with the diagnosis of OSCC and the coping strategies of patients facing the disease's manifestations. The sample consisted of 15 patients, aged between 52 and 80 years (mean of 64.5, SD ± 7.5). The results showed four coping strategies that cause delays in seeking help: 1) self-medication, 2) seeking medical consultations, 3) abandoning consultations, and 4) consulting general dentists. Additionally, participants believed that the disease could heal spontaneously and did not immediately seek medical help. In conclusion, the studies provide a greater understanding of the mechanisms involved in diagnostic delays and outline the survival panorama of OSCC in an inland region of Brazil.

Keywords: Oral cancer. Oral squamous cell carcinoma. Survival rate. Late diagnosis.

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1 INTRODUÇÃO

O câncer de boca é uma doença que afeta a população de todos os países, sendo considerado um problema de saúde pública mundial (ALMANGUSH et al., 2020). Anualmente, estima-se que mais de 370.000 novos casos sejam diagnosticados (SUNG et al., 2021). No Brasil, em 2024, a prevalência estimada é de 15.100 novos casos. Entre os homens, ocupa a 5ª posição de incidência (INCA, 2023). Trata-se de um dos tumores mais comuns da região de cabeça e pescoço (MÜLLER, 2017). Apresenta como subtipo patológico mais prevalente o carcinoma espinocelular (CEC). Ele é responsável por aproximadamente 90% das neoplasias malignas na região oral (SPEIGHT, F., 2018; SUNG et al., 2021).

Essa neoplasia surge a partir do revestimento epitelial da cavidade oral (SPEIGHT; FARTHING, 2018). Isso inclui a mucosa bucal, assoalho da boca, língua, rebordos alveolares, trígono retromolar, palato duro e parte interna dos lábios (ALMANGUSH et al., 2020; CHAMOLI et al., 2021).

Tradicionalmente, o tabaco e o álcool são os fatores de risco associados ao CEC (NEVILLE; DAY,2002). O álcool é considerado um fator independente, mas quando associado sinergicamente ao tabaco, o risco de desenvolver CEC aumenta 35 vezes. Além disso, a infecção por papilomavírus humano (HPV) também está relacionado com a doença, especialmente com o carcinoma de orofaringe (ARALDI et al., 2018; JOHNSON et al., 2020).

Em estágios avançados, o carcinoma espinocelular (CEC) frequentemente apresenta invasão de estruturas locais e metástases distantes. Nessa fase, são comuns relatos de problemas funcionais, além de sinais e sintomas associados. No entanto, em estágios iniciais, a doença geralmente não causa dor ou sintomas específicos. (FERREIRA et al., 2021; NOCINI; LIPPI; MATTIUZZI, 2020).

Essa característica está fortemente relacionada ao atraso no diagnóstico, pois as lesões muitas vezes não são valorizadas pelo próprio indivíduo ou pelos profissionais de saúde (CAMPION et al., 2016). Aproximadamente 38% dos pacientes com CEC esperam mais de 3 meses antes de consultar o profissional médico ou dentista (GÜNERI; EPSTEIN, 2014; RAMAN; GAYATHRI, 2019). Além disso, apenas cerca de 25% dos pacientes conseguem identificar o consumo de álcool e tabaco como fatores de risco para o surgimento do câncer (BAYKUL et al., 2010).

Avanços expressivos no tratamento deste tipo de câncer foram alcançados nas últimas décadas. No entanto, o seu prognóstico mantém-se pouco favorável,

especialmente em casos diagnosticados tardiamente (BAKSHI et al., 2023). A presença de metástase nos linfonodos cervicais é o fator prognóstico mais expressivo do CEC e pode reduzir a taxa de sobrevida em até 50% (HOWARD; AGRAWAL; GOOI, 2021; JOHNSON et al., 2020; MONTERO; PATEL, 2015; MONTORO et al., 2008). Além disso, a presença de comorbidades também é um fator importante relacionado à sobrevida (CHAMOLI et al., 2021; ZANONI et al., 2019). Margens cirúrgicas positivas também podem estar associadas a um pior prognóstico geral (CHAMOLI et al., 2021).

Nesse sentido, os dados obtidos pela análise da sobrevida dos pacientes com CEC são relevantes para formulação de terapias mais eficazes, vigilância e análise de resultados por programas de saúde. Além disso, podem indicar fatores que afetam o desfecho do tratamento do paciente (BAKSHI et al., 2023; FERREIRA et al., 2021; ZANONI et al., 2019).

Portanto, o objetivo deste trabalho foi avaliar fatores associados à sobrevida de pacientes com CEC atendidos no Núcleo de Especialistas em Oncologia (NEO, Hospital Bom Samaritano) e explorar os fatores associados ao diagnóstico de CEC e as estratégias de enfrentamento dos pacientes na cidade de Governador Valadares, Minas Gerais, Brasil.

2 ARTIGO CIENTÍFICO

Artigo científico enviado para publicação no periódico *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, qualis CAPES Interdisciplinar A2. A estruturação do artigo baseou-se nas instruções aos autores preconizadas pelo periódico (ANEXO A).

Lack of knowledge, understanding, and delayed attitudes towards health-seeking behavior in oral cancer patients: a qualitative study

Larissa Stefhanne Damasceno de Amorim Póvoa[1], Daniele Assis Souza[2], Francielle Silvestre Verner[1], Rafael Binatto Junqueira[1], Sibele Nascimento de Aquino[1]

1 Applied Health Sciences Post-Graduate Program, Federal University of Juiz de Fora, Governador Valadares, Minas Gerais, Brazil

2 DDS, Federal University of Juiz de Fora, Governador Valadares, Minas Gerais,Brazil

Corresponding author:

Larissa Stefhanne Damasceno de Amorim Póvoa. Applied Health Sciences Post-Graduate Program. Federal University of Juiz de Fora, Campus Governador Valadares. Rua São Paulo, 745, Governador Valadares, Minas Gerais, Brazil. Zip Code: +55 033 35010-180 ramal 1580. E-mail: larissa.povoa@ufjf.br

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All authors had substantial contributions to the conception, draft, and design of this work, as well as participation of the acquisition, analysis, and interpretationof data for the work. The final version of this work was approved for publication by all parts included. If there is a need, all authors agree to be accountable for any aspects of the work and we ensure–questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The authors also state that the material is original, and it has not been published elsewhere.

CONFLICT OF INTEREST

The authors have no conflicting interests to declare.

AUTHORS' CONTRIBUTIONS

All authors contributed to this work. **Author contributions: Larissa Stefhanne**

Damasceno de Amorim Póvoa: Methodology, Data curation, Writing- Original draft preparation and Editing. **Daniele Assis Souza:** Methodology, Data curation, Writing- Reviewing and Editing. Writing- Reviewing and Editing. **Francielle Silvestre Verner:** Writing- Reviewing and Editing. **Rafael Binatto Junqueira:** Writing- Reviewing and Editing. **Sibele Nascimento de Aquino**: Conceptualization, Methodology, Writing- Reviewing and Editing, Supervision.

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STATEMENT OF CLINICAL RELEVANCE

The health attitudes and coping strategies of patients diagnosed with oral cancer are pivotal in influencing the timing of seeking assistance. By comprehending these behaviors, healthcare professionals are enabled to develop strategies aimed at mitigating delays in seeking assistance.

ABSTRACT

Objective: This study aimed to explore coping strategies adopted by patients diagnosed with oral squamous cell carcinoma (OSCC) and investigate reasons for delayed healthcare-seeking help. Study Design: Data were collected through semi-structured interviews based on the Semi-Structured Self-Regulatory Model (SRM) with participants diagnosed with advanced OSCC, between 2021 and 2023. The sample size was determined based on the saturation point. In this context, saturation refers to the point in data collection when no additional issues are identified, and data begin to repeat, indicating that further data collection is redundant and that an adequate sample size has been achieved. Interviews were audio-recorded, transcribed verbatim, coded, and analyzed using framework analysis. Results: The sample consisted of 15 patients, 13 male and 2 female, aged between 52 and 80 years (mean 64.5, SD ± 7.5). Four types of coping strategies causing delayed help-seeking emerged: 1) self-medication, 2) seeking medical appointments, 3) abandoning consultations (or treatment), and 4) consulting general dental practitioners. Participants believed that the disease could heal spontaneously and did not consider seeking health help immediately. Socio-economic factors and lack of knowledge on the part of healthcare professionals and patients may have influenced the delay in the diagnosis. Conclusion: Patients with advanced OSCC demonstrated inadequate disease awareness, oral cancer knowledge, misdiagnosis, and insufficient referrals to specialized treatments.

Keywords: Health care-seeking; Oral cancer; Delay in diagnosis.

INTRODUCTION

Oral cancer presents one of the most significant medical and socio-economic challenges in developed countries worldwide, due to its high mortality rate.[1] Annually, over 370,000 new cases are diagnosed globally, resulting in an estimated 127,459 deaths. In Brazil, excluding non-melanoma skin tumors, oral cavity cancer ranks as the 8th most common type of cancer, with an estimated prevalence of 15,100 new cases projected for 2024.[2]

Early detection and assessment are crucial for oral cancer, improving survival rates. However, oral cancer is often diagnosed at symptomatic and advanced stages, a trend highlighted by recent study in Brazil.[3] Consequently, this contributes to low 5-year survival rates, which have remained around 50% for decades.[4,5] Delayed diagnosis is attributed as the main reason for this poor survival.[6,7] Evidence suggests that patient pathways to presentation and initial management in primary care settings are critical determinants of cancer patient outcomes.[8–10] Previous research also indicates that overall delay is influenced by patient characteristics, particularly their health-seeking behavior.[8,11]

Health-seeking behavior involves actions taken by individuals who perceive themselves as having a health issue, aiming to understand their health status and find a suitable solution.[12] Therefore, seeking care varies based on cognitive and noncognitive factors, requiring a contextual analysis.[13] The Self-Regulatory Model (SRM), developed by Leventhal [14,15] provides a framework for understanding how symptoms and emotions during a health threat influence illness perception and subsequent coping behaviors.[16] This model divides problem-solving into three stages: (i) symptom interpretation; (ii) coping strategy; and (iii) appraisal.[8,17]

The SRM has been widely used to comprehend patients' health-seeking behavior in chronic diseases.[18–21] In oral cancer, limited data exist regarding the health-seeking behavior, particularly in the Brazilian context. Additionally, Brazil has a highly heterogeneous population, characterized by diverse health cultures, religiosity, and economic statuses, that may influence the help-seeking process.[22] Investigating these behaviors is therefore crucial for understanding barriers and addressing knowledge gaps aimed at reducing the proportion of oral cancer cases diagnosed at advanced stages.[23–25] Thus, this study aimed to investigate coping strategies adopted by patients diagnosed with SCC in a Brazilian sample and analyzed the reasons for delayed healthcare-seeking behavior among those with advanced-stage. To date, to the best of our knowledge, this is the first study to use the SRM in oral SCC in South American.

MATERIALS AND METHODS

A qualitative exploratory approach was conducted during a period of two years in patients with oral SCC. The inclusion criteria comprised individuals diagnosed with oral SCC, aged 18 years or older, and staging ranging from TNM stage III to IV. Individuals facing difficulties in speech or comprehension were excluded from the study. The term 'delay in seeking help' was operationally defined as the duration from the recognition of initial symptoms of illness by patients with advanced TNM stage III and IV until their first contact with a medical practitioner.

The determination of the sample size was guided by the saturation point. In broad terms, saturation in qualitative research is the criterion for stopping data collection and/or analysis. It occurs when no new data is found, and categories are fully developed. As the researcher repeatedly observes similar instances, they become confident that a category is saturated. [26] Two clinics serving as regional referral centers

for oral cancer in Governador Valadares were selected as sampling points: a stomatology clinic and a public health dental specialty center. Patients were interviewed before delivery of the histopathological report. Participants were briefed on the study's purpose, and all signed the patient consent form. Interviews were then conducted in an isolated room to ensure privacy for participants. The researcher conducted these interviews using the national language, Portuguese. Each interview was audio recorded using a dedicated device and subsequently transcribed verbatim by two researchers independently.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (protocol number 4.073.047) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Data Collection and Analysis

Data were collected through face-to-face semi-structured in-depth interviews based on the Self-Regulation Model (SRM)[15], which were adapted and translated into Portuguese. The questionnaire used in the interviews was developed by Azhar and Doss [8], drawing from the Self-Regulation Model (SRM). The SRM model used aims to grasp the processes in symptom representation until diagnosis.[17] The SRM is based on an individual’s cognitive and emotional representations of their condition. It posits that these illness representations guide coping procedures aimed at controlling the illness threat, providing a dynamic model to study psychosocial outcomes associated with adapting to ill health. Therefore, the model offers a framework for understanding how individual symptoms and emotions experienced during a health threat or diagnosis influence the perception of illness and subsequently guide coping behavior. [16,17] To prepare for the interviews, the researcher conducted two pre-test interview sessions

to gain a thorough understanding of the research substance and the necessary procedures. Sociodemographic data were initially collected, followed by an exploration of symptom presence according to SRM components: symptom interpretation, coping strategy, and appraisal of coping effort. The interviews were realized before the diagnosis of SCC.

Data analysis utilized framework analysis, a systematic matrix-based approach providing clear guidance on qualitative data analysis from initial collection through to structured and summarized data production. The analysis involved familiarization with the data, identification of thematic frameworks, coding, charting, and mapping, and interpretation. The coding framework, developed from both a priori and emerging issues, was created using a panel to ensure validity, consistency, and reliability. Thematic frameworks were then identified based on SRM components, and coding was applied with conceptual labels corresponding to themes. Charting involved compiling data in matrix form for each theme and participant. The final steps included mapping and interpretation to identify patterns, associations, concepts, and explanations in the data.

RESULTS

Fifteen participants were interviewed until reaching saturation point. The age of the participants ranged from 52 to 80 years old, with a mean age of 64.5 years (SD ± 7.5). Table I presents the socio-demographic details of the participants at each sampling point. Ten participants had either no formal education or low educational levels (seven had incomplete primary education, and four were illiterate). Only one participant reported not smoking.

Symptom interpretation and emotional features

Table II presents the interpretations of initial symptoms based on participants perceptions and beliefs about the illness. A few participants were unable to interpret the symptoms, while many believed that the disease would resolve spontaneously and chose to ignore it. Additionally, some participants believed that after undergoing a biopsy, the symptoms would diminish, and the disease would be cured. *"I had the surgery, and the problem was resolved. No pain now" (male, 59 y/o).*

Participants respond with a certain diversity and confused feelings about symptom interpretation. Simultaneously appearing both calm and in control, also confused and bewildered. *"I maintain (the symptom), but I lose a lot, I don't taste my food It's not very good! But I feel like I'm fine, it's just this pain that keeps me up at night" (male, 63y/o).*

In addition, it is possible to perceive anxiety due to the resolution of the symptom. It is always combined with a complaint about daily activities that were impeded by pain: *"Yeah, and then my worry made me more agitated, so I became more agitated to resolve this pain quickly" (male, 52y/o) "I can't go to work, have lunch, dinner...it's really affected me" (male,63y/o)*

Coping Strategy

Coping strategies in response to symptom interpretation are tabulated in Table III. The coping strategies used included self-medication, seeking medical appointments, abandoning consultations (or treatment) and consulting general dental practitioners.

Assessment of coping efforts

Many participants evaluated their coping actions as symptoms persisted, particularly as the tumor grew larger and began to affect them. *“It started with a small lump and then this lump grew, it grew and then it started to feel a lot of pain and from then on it started to feel more pain, so we had to look for it to find out what it was” (male, 59y/o).* Other participants started to appraise their coping efforts after increasing pain. *"Then one day I said, I can't take it (pain), no, I'm going to the doctor" (male,54y/o)*

Factors Associated with Participants’ Health-Seeking Behavior

Several participants who experienced and realized initial symptoms did not initiate any actions related to health-seeking behavior. *“I didn't do anything, I thought I wasn't going to continue, and it continued, right?! And it's been a long time, right?! it's been a long time” (male,71y/o).*

Certain factors, such as knowledge and awareness, influenced participants’ health seeking behavior. Majority of participants had low educational background, resulting in a lack of knowledge about symptoms related to oral cancer. *“No, the reading I do is very little, is watching others writing, teaching. Just the name. I didn't go to school (male,74y/o)*

Some feel afraid and anxious when consulting with doctors or dentists and, therefore, delay this meeting. *“And on that day, it must have been a month or so ago, I felt like talking to the dentist at the clinic, talking to her. Then I was called to the room, so I said: “I'm not going to say anything to her”, the last time I went there I called her and spoke to her. The doctor called her, right, and then asked her to do these tests here” (male, 54y/o).* In addition, over half of participants reported a delay in finding access to the specialized service.

“So, I was alone, so I said I'm going to see a doctor. So, I looked for a doctor, and it took a while for the appointment to come, it took more than 30 days. (male, 66y/o)

Furthermore, some participants expressed strong beliefs about a spontaneous improvement in symptoms. *“I thought it was going to cure, yeah, I thought right... I said whatever God wants” (male, 66y/o)*

“I thought it would stop soon, it's been about 9 months and I'm already” (male,52 y/o).

“We're always anxious about whether it's going to pass, you know, we're not going to worry anymore, we're just going to stay there...” (male,61y/o)

Based on the findings of the current study, a theoretical model was developed (adapted from SRM [27] and Azhar et al., [28]) to illustrate the health-seeking journey of the participants. (see Figure I) This model aims to elucidate the process of how participants react to symptoms up until the point of diagnosis.

DISCUSSION

The sociodemographic characteristics of participants of this study showed similarities with the literature regarding the mean age of patients. [29,30] Furthermore, the synergistic consumption of tobacco and alcohol was common among interview participants. [31,32] Noteworthy, these health risk behaviors suggest that health value and perceived health competence are negatively related. [33–35]

The educational level and lack of awareness likely influenced health-seeking behavior of the participants, thereby potentially impacting their symptom interpretations and coping strategies indirectly. Furthermore, a pertinent qualitative

study delving into oral cancer patients' perceptions of initial symptoms highlighted that a substantial majority of respondents with low educational levels and insufficient knowledge of oral cancer symptoms had disabled coping strategies. [36]

In the present study the initial oral signs and symptoms were interpreted as a ‘wound’, which could also be perceived as an “ulcer” or “aphthous lesion”. Ulceration is a typical appearance of early oral cancer [37], but it may be challenging for most patients to interpret these lesions as malignant.

This could play a significant role in the delay in seeking help, as symptoms of the illness may be perceived as minor. [9] According Rutkowska et al., only 47.5% of cases sought healthcare and visited a doctor after noticing the first symptom. [38] Similarly, participants normalized other symptoms, attributing the injury to self-inflicted physical trauma, such as fish bone ingestion or the use of a prosthesis. [39] Furthermore, some participants who experienced frequent bodily discomforts misinterpreted these symptoms as the cause of a mouth ulcer instead of vice versa. Our findings align with those of a literature review comprising 32 qualitative studies, which revealed that patients who presented vague or nonspecific initial symptoms often did not attribute these signs to the disease. [40]

At the same time, participants did not express significant emotional concerns, likely because their symptoms were mild or went unnoticed. When symptoms are less severe or ambiguous, emotional responses tend to be subdued, and coping mechanisms may operate at a slower pace. [15] Consequently, when symptoms are more severe or the participant reports experiencing pain, emotional responses are linked to feelings of fear and anxiety. [41] In this context, fear can elicit varied responses, either prompting individuals to seek help or causing delays, depending on its intensity and coping mechanisms. [42] Fear triggered by symptom worsening often motivates

healthcare seeking, driven by emotions like fear, anxiety, and worry, while suspicion of a severe condition may lead to prolonged consultation suspension, undermining self-competence. [36,43]

In our investigation, it was observed that coping strategies employed included self-medication, seeking medical appointments, abandoning consultations (or treatment), and consulting general dental practitioners. The earliest phase of coping strategy was self-medication. In contrast, Azhar and Doss [28] did not recognize this coping mechanism as an initial mechanism. Besides, self-medication was identified in a qualitative investigation, which established a correlation between the delay in seeking medical or dentist attention and the practice of self-medication. [44]

Participants also sought medical assistance to control their symptoms. There was a prevailing understanding among these participants that the prescribed regimen would resolve both the symptoms and the underlying pathology, often overlooking the oral lesion. Consequently, patients may contemplate discontinuation of treatment upon the alleviation of symptoms, misconstruing it as a hallmark of successful resolution. Although two participants promptly consulted dentists upon the onset of symptoms, the majority underwent all the mentioned phases before ultimately doing so. (Out of curiosity, what did the two dentists recommend for their patients' next step.

Furthermore, in our study, often the administration of medications by general doctors signaled the end of care. A systematic review highlighted that healthcare providers faced challenges in identifying initial lesions, leading to delayed diagnoses. [45] This finding is supported by evidence suggesting that although general practitioners referred more cases of oral cancers compared to dentists, dentists tended to refer early-stage (stage 1 and 2) oral cancers more frequently than general practitioners. [46]

As evidenced, the self-regulation process considers individuals' self-perception and is influenced by several factors. Factors related to the health system emerged as potential barriers to disease management. One of these challenges is the delay for participants in scheduling medical appointments and accessing specialist referrals. In Brazil, the Unified Health System (SUS) stands out as a means for universal health, offering free services to all citizens, especially those from poor backgrounds. However, the system faces pronounced regional disparities, resulting in unequal access and variations in the quality of care. [3,47–49] In this context, although the population benefits from universal health coverage, access to special care remains predominantly restricted to the economically privileged sections of society. [50]

The present study acknowledges certain limitations that deserve consideration. Firstly, the sample group was exclusively drawn from two public reference centers from a city in Brazil. This may introduce a degree of bias due to the localized nature of the sample. Secondly, while the sample size for this qualitative study is considered sufficient to address the research questions, it is imperative to note that the selection process was not actively designed to ensure heterogeneous representation. Instead, a convenience sample from participating centers was utilized. Despite sharing many sociodemographic similarities, conducting research in an interior region of a Brazilian state differs significantly from a capital city setting. The rural-urban population ratio may influence preferences for self-medication due to accessibility challenges.[3] Due to this, it is not feasible to extrapolate our findings to encompass all oral SCC patients in Brazil. Considering this, our future steps are to conduct studies in other reference centers in capital cities and interior towns to cover a more diverse sample. This will allow for broader generalizations and ensure greater external validity.

Nevertheless, despite these limitations, the study identifies certain similarities in the experiences of the participants, thereby elucidating important thematic elements. These shared experiences offer valuable insights and have implications for guiding future research. Although the results may not be universally applicable to all oral SCC patients in Brazil, the identified themes provide a foundation for a deeper exploration and understanding of the nuances within this specific context.

Based on the findings, the study emphasizes the lack of awareness regarding oral SCC and its progression among the participating patients, and the ineffectiveness of the actions of healthcare providers. Additionally, there is a lack of preparedness and knowledge among healthcare professionals in identifying oral malignant lesions and determining the appropriate clinical course.

In conclusion, the healthcare-seeking behavior of oral SCC patients in the Brazilian sample can be explained by the Self-Regulation Model (SRM). The coping strategies used (self-medication, seeking medical appointments, abandoning consultations (or treatment) and consulting general dental practitioners) can explain the reality of symptoms interpretation and promote a new paradigm for public health. Interestingly, when seeking medical help, the participants thought that treating the symptom would resolve the injury. Furthermore, it is of paramount importance to establish and enhance awareness about oral cancer. Collaborating with public healthcare services, there is a need to train and equip health-care professionals with the necessary skills to recognize and detect early signs of oral SCC.

Figure legend: Figure 1. Health- Seeking Pathway of Participants from the Onset of First Symptom Until the Point of Diagnosis (Adapted from the SRM, 1980 and Azhar & Doss, 2018.

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Figure 1. Health- Seeking Pathway of Participants from the Onset of First Symptom Until the Point of Diagnosis (Adapted from the SRM, 1980 and Azhar & Doss, 2018

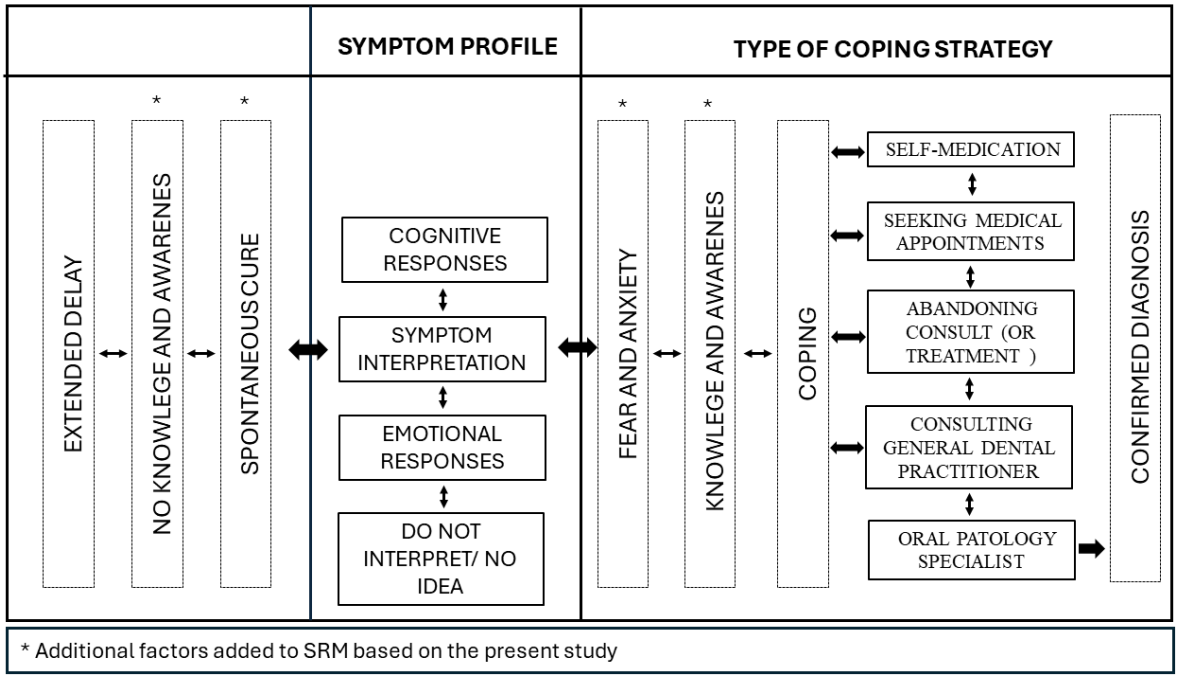


Table I. Socio-demographic characteristics of participants

Participant	Age (Y)	Sex	Living area	Education	Smoker	Alcoholic
1	52	M	Urban	incomplete primary education	Yes	Yes
2	61	M	Rural	incomplete primary education	Yes	No
3	59	M	Rural	incomplete primary education	Yes	No
4	66	M	Rural	incomplete primary education	Yes	Ex- alcoholic
5	63	M	Rural	illiterate	Yes	Ex-alcoholic
6	70	M	Rural	illiterate	Yes	Yes
7	74	M	Urban	illiterate	Yes	Yes
8	71	M	Urban	complete primary education	No	No
9	54	F	Urban	complete primary education	Yes	Yes
10	65	M	Urban	complete primary education	Yes	No
11	64	F	Urban	incomplete primary education	Yes	Yes
12	63	M	Rural	incomplete primary education	Yes	No
13	67	M	Rural	illiterate	Yes	Yes
14	59	M	Urban	complete primary education	Yes	No
15	80	M	Urban	incomplete primary education	Yes	Yes

F: Female; M: Male. Y: years

Table II. Cognitive Symptom Interpretations

Symptom Interpretations	Verbatim
Accidental trauma	“The moment I finished eating, I felt the fish bone inside, that was his spine. Then I swallowed it and it hurt, so there was a scar here, right?” (male, 52 y/o)
Burning sensation	“The tongue started to boil. I felt a burning sensation” (male, 80 y/o)
Cancer	“I went to brush my teeth, brush my gums, then I lifted my tongue and saw the lumps. Then I got a little worried that my mother died of cancer, so I thought it could be genetic and have the thing, right?” (male,59 y/o)
Gun disease	“I felt uncomfortable in my teeth, it must be something in the gums, just a wound” (female, 65 y/o)
Aphthous lesion	No, I found no symptoms. I just felt like it was a mouth ulcers." (male,63 y/o)
Prosthetic use	“Because I had a spot in the corner of my mouth and the doctor thought it would be better to do a biopsy to see, right, but I don't think it's anything serious. I use a prosthesis, it could be a callus, right?” (male, 54 y/o)

Table III. Participants' coping strategies in response to their symptom interpretation.

Type of coping	Coping procedure	Reasons	Verbatim
Self-Medication	Tea		"To deal with the symptom, I took medicine, a lot of tea... those things to treat the wound..." (male, 64y/o)
	Dipyrone	Novalgina is a dipyrone-based medicine, which is easily accessible in pharmacies without being prescribed by doctors	"With some medications, the pain was temporary, you know? It seemed that after the medication wore off, the pain came back again... then I went back and took more novalgin" (male, 66y/o)
Medical appointment	Dipyrone, antibiotic, diclofenac.	Participants were taking prescribed medication by their general practitioner to reduce pain (based on patient complaints about current condition/symptom)	"First I went to the health center in my little town there, the doctor prescribed medicine to drip into my ear and prescribed dipyrone to drink and to take away the pain, right" (male, 63y/o).
Consult (treatment) abandonment	Interrupt verbally		"Nothing […] I abandoned it, I said I wouldn't mess with it" (male, 71y/o). "I abandoned it, I said I wasn't going to mess with it" (male, 52 y/o).

General dental practitioner	Consult	“I already (dentist’s consult) had it, and the other dentist said I didn’t need to come here. I’m just not going to mention a name because I don’t need to, right?” (male, 61y/o)

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Title: "Understanding Survival trends in Oral and Oropharyngeal Squamous Cell Carcinoma: A Perspective from a Brazil's Countryside"

Authors: Larissa Stefhanne Damasceno de Amorim **Póvoa**[1], Maria Eduarda **Pérez-de Oliveira**[2], Francielle Silvestre **Verner**[1], Rafael Binatto **Junqueira**[1], Pedro Paulo Lopes de Oliveira **Junior**[3], Sibele Nascimento de **Aquino**[1,2]

Authors' affiliations:

[1]Applied Health Sciences Post-Graduate Program, Federal University of Juiz de Fora, Governador Valadares, Minas Gerais, Brazil.

[2]Oral Diagnosis Department, Piracicaba Dental School, Universidade Estadual de Campinas (UNICAMP), Piracicaba, São Paulo, Brazil.

[3] Oncologist at Center for Samaritano Hospital Oncology Specialists (NEO) – Bom Samaritano Social Charity

Corresponding author:

Larissa Stefhanne Damasceno de Amorim Póvoa, DDS. Applied Health Sciences Post-Graduate Program. Federal University of Juiz de Fora, Campus Governador Valadares. Rua São Paulo, 745, Governador Valadares, Minas Gerais, Brazil. Zip Code: +55 033 35010-180 ramal 1580. E-mail: larissa.povoa@ufjf.br

Ethical responsibilities of authors:

All authors had substantial contributions to the conception, draft, and design of this work, as well as participation of the acquisition, analysis, and interpretation of data for the work. The

final version of this work was approved for publication by all parts included. If there is a need, all author agrees to be accountable for any aspects of the work and we ensure that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The authors also state that the material is original, and it has not been published elsewhere.

Conflict of interest: The authors have no conflicting interests to declare.

Authors' contributions: LSDA Póvoa – Conceptualization, Methodology, Data curation, Writing- Original draft preparation and Editing. ME Pérez-de-Oliveira – Methodology, Writing- Reviewing and Editing. FS Verner – Methodology, Writing- Reviewing and Editing. RB Junqueira– Methodology, Writing- Reviewing and Editing. PPL de Oliveira Junior – SN Aquino – Conceptualization, Methodology, Writing-Reviewing and Editing, Supervision.

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Abstract

Introduction: Oral and oropharyngeal squamous cell carcinoma represent a major health problem in the global scenario, with low to moderate 5-year survival rates. However, the most of data is based on population sample from capital cities. Objective: The aim of this study was to investigate the survival rates and prognostic factors of patients with oral and oropharyngeal squamous cell carcinoma from a reference cancer center of a Brazil's countryside. Study Design: A retrospective cohort study was conducted using electronic medical records from an Oncology Center located in Governador Valadares, Minas Gerais, Brazil. Survival rates and prognostic factor were identified through SPSS software. Results: A total of 600 patients diagnosed between 2009 and 2021 were included. A strong male predilection was observed (78.5%l) and mostly of patients was diagnosed in advanced stages (76.1%). The most common site was oral cavity 61%. The 5-year overall survival, disease-specific survival, and disease-free survival rates were 41.2%, 40.4%, and 77.1%, respectively. In multivariate analysis, smoking (HR = 1.92; p = 0.125), being an ex-smoker (HR = 2.83; p = 0.021), presence of lymph node invasion (HR = 2.52; p = 0.001), and more than 2 months between first consultation and treatment (HR = 2.72; p = 0.019) were identified as independent prognostic factors**.** Conclusion: The study highlights a delay of more than 2 months between the first consultation and treatment as an independent factor for survival for SCC in a countryside region of Brazil. Physician referral has also emerged as a new risk element, requiring further investigation into survival determinants of OSCC.

Keywords: Squamous cell carcinoma. Survival analysis. Oral cancer.

Introduction

Oral cancer is among the most prevalent cancers globally, ranking in the top ten in several countries, with an estimated 377,713 new cases in 2020 [1], [2] Combined with oropharyngeal cancer, these two locations comprise approximately 476,125 new cases, accounting for 2.5% of all cancers and 225,900 deaths [1], [3]. In Brazil, this subtype ranks fifth among the most common cancers in men. Its incidence in Brazil was estimated at 5.6 cases per 100,000 inhabitants by the Global Cancer Observatory 2020 (GLOBOCAN)[1], the second highest rate in Latin America, after Cuba [4].

The majority of oral squamous cell carcinoma (OSCC) occurs in older males and accompanied by well documented risk factors such as alcohol consumption and smoking [5]. Additionally, HPV infection has emerged as a significant risk factor for oropharyngeal cancer.[6] . In Early-stage lesions are typically painless, but most of cancers of oral region is diagnosed in advanced stages [7]. Despite advances in detection and treatment, the 5-year overall survival (OS) and disease-free survival (DFS) rates are steadily in the range of 50-60%. [8]. However, the median survival for patients with metastatic disease is around 4 months [9].

Many studies have sought to understand independent prognostic factors that lead to a poor survival.[10], [11], [12], [13], [14]. Factors such as tumor site, clinical T stage, clinical N stage, condition of the surgical margins of the resection specimen, pain and the presence or absence of lymphatic invasion have been identified as significant determinants of survival [15]. A recent study showed that survival of head and neck cancer in rural areas was significantly lower than in urban areas (42 months [SEM = 0.7; CI: 40.5-43.5] vs. 54 months [SEM = 1.2; CI: 51.7-56.3]; $p < 0.0001$[16]. Nennecke et al. also found significant differences for female breast cancer patients and male malignant melanoma patients residing in urban centers, with slightly better survival compared to all other district types, including countryside regions[17]. However, most of these studies focus on large reference centers in capital cities and did not

provide a comprehensive view of cancer survival in the countryside regions, especially in developing countries [18]. To address this gap in the literature, the objective of this study is to evaluate the survival of patients with OSCC at a reference cancer center located in a Brazilian countryside.

Materials and methods

Ethical approval and study design

This retrospective cohort study was approved by the Federal University of Juiz de Fora (CAAE:49855815.4.0000.5147). Also, the patient's identity remained anonymous according to the Declaration of Helsinki. Between January 1, 2009, and January 1, 2021, all cases diagnosed as squamous cell carcinoma were identified through the database of electronic medical records of the Center for Samaritano Hospital Oncology Specialists (NEO) – Bom Samaritano Social Charity, located in Governador Valadares, Minas Gerais.

Inclusion criteria included data with histopathological diagnosis of primary SCC were identified in oral cavity (International Classification of Diseases for Oncology [ICD-0-3]): (ICD-O-3: C02, C03, C04, C05,C05.1, C05.2, and C06), other/unspecified mouth (C06.0-C06.2,C06.8, C06.9), oropharynx (ICD-O-3: C01, C05.1, C05.2, C09, and C10) and nasopharynx (C11). The following morphological codes: 8051/3, 8052/3, 8070/3, 8071/3, 8072/3, 8073/3, 8074/3, 8075/3, 8076/3, 8078/3, 8083/3, and 8084/3 were considered for analysis. To be included, patients were required to have geographic locations listed at the time of diagnosis as well as data regarding length of survival after initial OSCC diagnosis.

Exclusion criteria encompassed patients with primary OSCC located in the tonsils, hypopharynx, salivary gland, parotid and submandibular gland. All cases that were not diagnosed as squamous cell carcinoma will be excluded.

Clinicopathological characteristics information

Clinical data, such as patients' sex, age and race, primary site of the lesion, smoking and drinking status, professional who referred, presence of symptoms, surgical margin, regional lymph nodes, clinical stage, metastasis, treatment modality, time between diagnosis and first consultation and time between first consultation and treatment, were extracted from clinical charts.

Statistical analysis

Analyses were performed with SPSS software version 22.0 (IBM Corporation, Armonk, NY, USA), and a p-value ≤ 0.05 was considered statistically significant for all tests. The qualitative and quantitative data were presented descriptively, and missing values were excluded from the analysis, with only valid percentages being considered. All SCC cases that reported the patients' follow-up and status were included for survival analyses. Kaplan-Meier cumulative overall survival (OS), disease-specific survival (DSS), and disease-free survival (DFS) curves were generated and the differences between survival curves was investigated by using the Log-Rank test. The OS was based on the time from diagnosis to the last follow-up (alive, not otherwise specified [NOS]) or time of death (died, NOS) and the DSS was calculated based on the time from diagnosis to the last follow-up (alive without disease) or time of death (died from disease). The univariate Cox proportional hazard regression model was employed to identify potential prognostic factors. A multivariate Cox regression model was created using all variables that achieved a p-value ≤ 0.20.

Results

Study population

A total of 600 individuals met inclusion criteria, of which 511 (85.2%) and 89 (14.8%) were from urban and rural regions, respectively. The mean age was 61 years old. The highest incidence of SCC was experienced by those 50-59 years-of-age (n=309, 51.5%) and most were male (n=471, 78.5%). Pain was more frequent in OSCC at higher rates (n=307, 54%.). The

most common site of primary OSCC was oral cavity (n=366, 61%). The majority of patients were classified at advanced stage (432- 761%). CT + RT was the most frequent treatment modality (n=217, 65.9%) (Table 1). The mean follow-up was 28.0-35.0 months, ranging from 20 to 224 months. A total of 142 (60,4%) patients died as a direct result of their OSCC, 346 (57,7%) died of unknown causes and 39 (30%) were alive with recurrence (Figure 1).

Overall survival

Based on Log-rank test, there was a significant increase in 5-year OS in not smokers (p= 0.030) and never-drinkers (p<0.0001) patients; painless (p<0.0001) and smaller (p <0.0001) lesions, absence of lymph node metastasis (p<0.0001) and distant metastasis (p=0.002), earlier clinical stages (p <0.0001), patients treated with other modalities (surgery, radiotherapy, radiochemotherapy) (p= 0.002) and treatment initiation with > 2 months (p=0.035) (S1_Figure and S1_Table).

Disease-specific survival

According to log-rank test, there was a significant increase in 5-year DSS in patients that never drink (51.6% p = 0.011), patients without pain (60.0%, p=0.001), individuals with small size of tumor (54.4% p< 0.0001), lesions that do not show lymph nodes invasion (51.6% p < 0.0001);in early clinical stage (54.7%, p < 0.0001), patients that treat with RT (63.2%, p=0,012) , patients that went to a consult with < 60 days (56.7% p=0.021) and start treat with < 2 months (53.3% p=0,002) (S2_Table 2 and S2_Figure).

Disease-free survival

The log-rank test showed a significant increase in 5-year DFS in patients without distant metastasis (80.7%, p = 0.005) (S3_Table and S3_Figure).

In the overall univariate Cox regression analysis, the following factors were associated with a higher risk of death: black patients (hazard ratio [HR] = 1.28; p = 0.143), smokers (HR = 1.51; p = 0.010), drinkers (HR = 1.76; p < 0.001), physician referral (HR = 1.72; p = 0.003),

painful lesions (HR = 1.61; p < 0.001), tumor size 3-4 (HR = 1.95; p < 0.001), presence of lymph node invasion (HR = 1.85; p < 0.001), advanced stage (HR = 1.90; p < 0.001), presence of metastasis (HR = 1.41; p < 0.001), RT treatment (HR = 2.14; p = 0.002), more than 60 days until consultation (HR = 1.27; p = 0.125), more than 2 months until starting treatment (HR = 1.34; p = 0.039), and primary tumor in the oral cavity (HR = 1.38; p = 0.134). However, in the multivariate Cox regression model, advanced stage, more than 60 days until consultation, more than 2 months until starting treatment, and primary tumor in the oral cavity were not identified as independent prognostic factors (S4_Table).

In the univariate Cox regression analysis, the following factors were associated with a higher risk of death due to the disease: smokers (HR = 1.60; p = 0.066), drinkers (HR = 1.87; p = 0.006), physician referral (HR = 1.55; p = 0.078), painful lesions (HR = 1.99; p = 0.002), tumor size 3-4 (HR = 2.05; p < 0.001), presence of lymph node invasion (HR = 1.93; p < 0.001), advanced stage (HR = 1.97; p = 0.003), CT + RT treatment (HR = 2.13; p = 0.056), more than 60 days until consultation (HR = 1.92; p = 0.025), and more than 2 months until starting treatment (HR = 2.02; p = 0.003). However, in the multivariate Cox regression model, only smoking (HR = 1.92; p = 0.125), being an ex-smoker (HR = 2.83; p = 0.021), presence of lymph node invasion (HR = 2.52; p = 0.001), and more than 2 months between first consultation and treatment (HR = 2.72; p = 0.019) were identified as independent prognostic factors (Table 2).

In the univariate Cox regression analysis for recurrence risk, patients from rural areas (HR = 1.85; p = 0.179), those with positive surgical margins (HR = 3.16; p = 0.139), and those with the presence of metastasis (HR = 3.41; p = 0.008) had a higher risk of recurrence. However, in the multivariate Cox regression model, only distant metastasis (HR = 5.44; p = 0.039) and positive surgical margins (HR = 3.46; p = 0.112) were identified as independent prognostic factors (S5_Table).

Discussion

Recurrence, survival, and mortality are influenced by numerous and diverse factors [19]. Currently, several studies have focused on SCC patient survival [10], [11], [12], [20], [21]. However, only a few studies have examined survival using disease-specific survival (DSS), disease-free survival (DFS), and overall survival (OS) of SCC [22], [23], [24]To the best of our knowledge, this is the first study to report OS, DSS, and DFS outcomes for patients with SCC in an Oncology Center from a Brazilian's countryside.

In this line, Barsouk et al. highlighted the importance of evaluating DFS outcomes to provide a realistic portrait of oral cancer survival [25]. In our study, the 2-year OS, DSS, and DFS were 50.0%, 50.2%, and 83.3%, respectively, while the 5-year OS, DSS, and DFS were 41.2%, 40.4%, and 77.5%, respectively. These findings are consistent with the recent research. [26], [27], [28]. Although, there is a significant variability in the literature regarding OS (49%-60%) and DSS (55%-76%)[25], [29], [30].

The current study showed that alcohol and smoke intake significative reduce OS, as previously reported [12], [31], [32], [33]. Such behavioral component may direct effect the postoperative wound healing, response to radiotherapy, and more long-term effects such as increasing the risk of second primary tumors and smoking-associated comorbidities [34].

Additionally, patients experiencing pain demonstrated significantly poorer 5-year OS (34%) and DSS (33.7%). A comprehensive meta-analysis of 30 trials across various cancer types identified pain as a significant prognostic factor for survival in multivariate analysis [35]. Furthermore, Reys- Gibbys et al. reported that pretreatment pain is an independent predictor of 5-year overall survival in patients with oral cancer [12]. However, the molecular and cellular mechanisms underlying the influence of pain on clinical outcomes remain incompletely understood [36]. Notably, pain is often associated with perineural invasion (PNI), which is frequently linked to advanced stage and distant metastasis [37].

OSCC frequently are diagnosed at advanced stages [12]. In this study, 76.1 % of the patients were diagnosed in stage III-IV. One of the primary reasons for this diagnosis in advanced stage is a delay in seeking medical attention [34]. Additionally, the impact of increased treatment delay on patients with oral cancer is a subject of ongoing debate [23], [38], [39], [40]. Interestingly, in our study patients who have their first consultation within 60 days of diagnosis show better 2- and 5-year DSS (p=0.021). Additionally, having less than 2 months between the first consultation and the start of treatment is significantly associated with improved outcomes (p=0.002). This finding aligns with other studies that have found that treatment delays longer than 60 days are associated with reduced survival [40].

Additionally, our results are consistent with those of Van Harten et al., that investigated 2,493 patients with HNSCC and observed unfavorable survival outcomes in patients who initiated treatment within 30 days [23]. Murphy et al. reported an elevated risk of mortality for patients with treatment delays exceeding 46 days in a study involving 51,655 patients with HNSCC[38]. Both studies did not distinguish between different tumor subsites (oral cavity, oropharynx, hypopharynx, and larynx) or primary treatment modalities (surgery, radiotherapy, radiochemotherapy). However, a study involving 68 patients with OSCC treated surgically did not demonstrate that treatment delay impacts survival [41].

In our study, DSS univariate analysis showed that both time between diagnosis and first consult, as well as the time between first time consult and treatment, predicted poor survival. However, only time between first consult and treatment did persist after adjustment for significant prognostic factors in a multivariate model. The data were collected from the only reference center for head and neck cancer treatment in Governador Valadares. A possible explanation for this result is that geographical barriers may influence access to treatment [42]. Additionally, as suggested by Saldanha et al., when a single specialized center is required to perform definitive diagnoses and treat all types of cancer in the region, the concentration of

these responsibilities in one center may create an overload, potentially delaying treatment initiation [42], [43].

In multivariate analysis, physician referral emerged as an independent factor for mortality from any cause. However, when related to cancer-specific mortality, there was no significant difference between doctor and dentist referrals. A recent systematic review concluded that the relative scarcity of studies makes it impossible to draw an association between oral cancer survival rates and type of referral[44]. Additionally, in our study, dentists referred more patients at an early stage than physicians ($p < 0.001$), which agrees with other studies [45], [46].

Patients with positive regional lymph nodes had more than twice the risk of dying from cancer (HR = 2.52, 95% CI: 1.46-4.36). Additionally, lymph node involvement was shown to be an independent prognostic factor for OS ($p = 0.002$). Puri et. al. demonstrated that lymph node metastasis significantly reduces the 5-year survival rate by nearly 50% [47]. In alignment with this finding, a recent study indicated that over 80% of survivors had no lymph node metastasis (p-value = 0.0073). [27]. Dolens et al. conducted an analysis on prognostic factors for poor outcome in OSCC, identified depth of invasion, extranodal extension, involvement of surgical margins, and lymph node metastasis as factors associated with an increased risk of poor survival [48].

OSCC easily tends to spread to the regional lymph nodes of the neck and subsequently metastasize [19]. In multivariate analysis, only metastasis and positive margins emerged as significant and independent factors for cancer recurrence. Interestingly, other studies have not demonstrated that positive or inadequate margins have an independent effect on survival in multivariate analyses for DFS [49], [50], [51]. Recently, Marra et.al reported no differences in DFS when considering vascular invasion and positive surgical margins. [8]. However, some

previous reports indicated that OS and DSS are influenced by close/ positive margin status. [10], [29], [52].

Limitations

The retrospective nature of the study, involving only a single center, did not provide a heterogeneous group. Nevertheless, it represents a particular population in the countryside region of Brazil, which could shed light on the missing data regarding survival in this specific group. Additionally, there is a lack of data on comorbidities that can impact survival outcomes. Furthermore, there may be some inaccuracies in the medical records that the research team was unable to correct, despite a thorough review of each record and the information entered the database.

Conclusion

Based on a robust analysis of 600 cases of OSCC from a referral center in the countryside of Brazil, this report confirms known independent prognostic factors such as smoking, drinking, and lymph node invasion. Additionally, this study highlights a delay of more than 2 months between the first consultation and treatment as an independent factor for survival. A new high-risk factor, physician referral, was also identified and requires further studies to better understand its contributing factors. Alongside these findings, other factors associated with poorer five-year survival include the presence of pain and metastasis.

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Figure legends

Figure 1. Five-year survival of 570 patients for overall survival (OS), 235 patients for disease-specific survival (DSS), and 120 patients for disease-free survival (DFS) for squamous cell carcinoma, diagnosed in Governador Valadares, Minas Gerais State.

Table 1. Characteristics of Study Sample.

Variable (N)	N (%)
Age (546)	
< 50 years	98 (16,3)
50-59 years	309 (51,5)
> 60 years	193 (32,2)
Sex (600)	
Male	471 (78,5)
Female	129 (21,5)
Zone (600)	
Urban	511 (85,2)
Rural	89 (14,8)
Race (600)	
White	113 (18,8)
Black	129 (21,5)
Others*	358 (59,7)
Smoking status (600)	
Not Smoker	102 (17,0)
Smoker	288 (48,0)
Ex- smoker	210 (35,0)
Drinking status (600)	
Never-drinker	189 (31,5)
Drinker	168 (28,0)
Ex-drinker	243 40,5)
Professional who referred (596)	
Dentist	87 (14,6)
Physician	509 (85,4)
Pain (600)	
No	194(32,3)
Yes	406 (67,7)
Surgical margin (125)	
Negative	69 (55,2)
Positive	56 (44,8)
Tumor (T) (550)	
1-2	189 (34,4)
3-4	361 (65,6)
Regional lymph nodes (N) (559)	
No	220 (39,4)
Yes	339 (60,6)
Clinical Stage (568)	
I-II	136 (23,9)
III-IV	432 (76,1)
Metastasis (600)	
No	549 (91,5)
Yes	51 (8,5)
Treatment modality (273)	
CT + RT	217(65,9)
RT	67 (16,3)
Others**	73 (17,8)
Time between diagnosis and first consult (600)	
> 60 days	504 (84,0)
< 60 days	96 (16,0)
Time between first visit and treatment (488)	

CT –	> 2 mouths	374 (76,6)
	< 2 mouths	114 (23,4)
	Tumor site (600)	
	Oropharynx	180 (30)
	Oral Cavity	366 (61,0)
	Others***	54 (9,0)

Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=3), Brown (n=352), and Yellow (n=3). **Surgery (n=22), surgery + RT (n=12), surgery + CT (n=15), and surgery + RT + CT (n=46). ***Parotid (n= 28) and Nasophanynx (n=26)

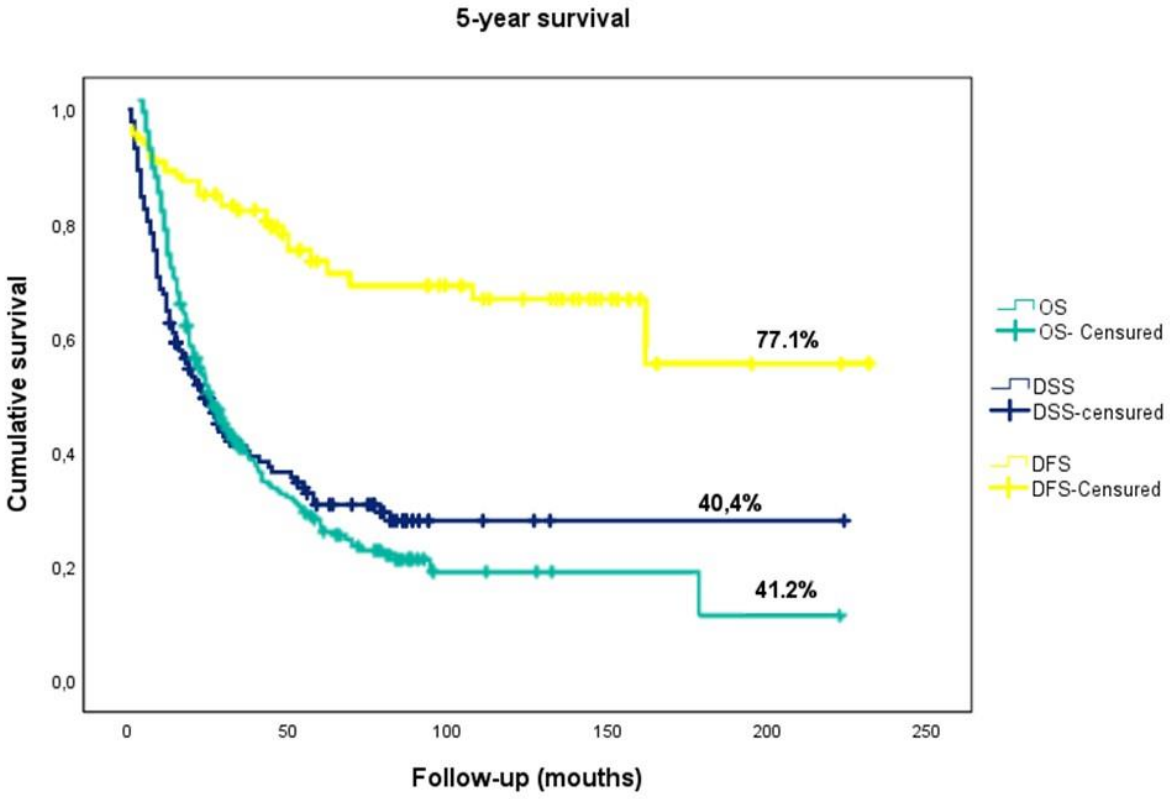
Table 2. Hazard ratio associated with disease-specific survival in oral squamous cell carcinoma.

Variables	Univariate analysis HR (95% CI)	*p*-value	Multivariate analysis HR (95% CI)	*p*- value
Age				
< 50 years	1.333(.835-2.127)	.228	-	
50-59 years	1.090 (.757-1.569)	.644	-	
> 60 years	Reference			
Sex				
Male	1.199 (.797-1.804)	.384	-	
Female	Reference		-	
Zone				
Urban	Reference		-	
Rural	1.080(.672-1.733)	.751	-	
Race				
White	Reference			
Black	1.122 (.673-1.869)	.660	-	
Others*	1.087 (.712-1.659)	.700	-	
Smoking status				
Not Smoker	Reference			
Smoker	1.606 (.969-2.663)	**.066**	1.928 (0.833-4.463)	**.125**
Ex- smoker	1.534 (.904-2.605)	**.113**	2.833 (1.172-6.847)	**.021**
Drinking status				
No	Reference			
Yes	1.877 (1.202-2.934)	**.006**	1.504 (0.740-3.058)	.260
Ex- alcoholic	1.242 (.808-1.911)	.323	0.709 (0.362-1.388)	.315
Professional				
Dentist	Reference			
Doctor	1.559 (.951- 2557)	**.078**	1.420 (0.773-2.610)	.259
Pain				
No	Reference			
Yes	1.995(1.286-3.095)	**.002**	0.828 (0.602-1.140)	.248
Surgical margin				
Negative	Reference			
Positive	1.361(.626-2960)	.436	-	
Tumor (T)				
1-2	Reference			
3-4	<.001 2.057 1.370 3.089	**<.001**	1.366 (0.681-2.740)	.380
Regional lymph nodes (N)				
Yes	1.931(1.342-2.778)	**<.001**	2.529 (1.465-4.367)	**.001**
No	Reference			
Clinical Stage				
I-II	Reference			
III-IV	1.974 (1.263-3.084)	**.003**	0.924 (0.343-2.491)	.876
Treatment modality				
CT + RT	2.138 .981 4.663	**.056**	1.827 (0.416-1.644)	.588
RT	Reference			

Others**	1.149	.483	2.732	.754	1.529 (0.158-1.768)	.301
Metastasis						
No	Reference					
Yes	1.255 (.694-2.270)			.453	-	
Time between diagnosis and first consult						
> 60 days	1.921(1.084-3.403)			**.025**	1.238 (0.618-2.481)	.547
< 60 days	Reference					
Time between first visit and treatment						
> 2 mouths	2.024 (1.264-3.241)			**.003**	2.725 (1.181-6.284)	**.019**
< 2 mouths	Reference					
Tumor site						
Oropharynx	Reference					
Oral Cavity	1.220 (.816-1.825)			.333	-	
Others***	1.058 (.518-2.158)			.895	-	

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=130). and Yellow (n=2). **Surgery (n=9). surgery + RT (n=7). surgery + CT (n=3). and surgery + RT + CT (n=22). ***Parotid (n= 5) and Nasophanynx (n=11).

Figure 1. Five-year survival of 570 patients for overall survival (OS), 235 patients for disease-specific survival (DSS), and 120 patients for disease-free survival (DFS) for squamous cell carcinoma, diagnosed in Governador Valadares, Minas Gerais State.



Suplementary file:

Supplement Table 1. Log-rank analysis associated with overall survival outcome of the clinicopathological features of 570 squamous cell carcinoma cases.

Variables	Deaths/Total	2-year survival rate (%)	5-year survival rate (%)	*p*-value
Overall	**344/570**	**50.0**	**41.2**	
Age				0.744
< 50 years	56/93	49.5	41.0	
50-59 years	106/182	52.7	42.3	
> 60 years	182/295	47.8	40.7	
Sex				0.218
Male	273/446	46.6	45.1	
Female	71/124	53.2	45.1	
Zone				0.419
Urban	293/487	49.7	41.7	
Rural	51/83	49.4	38.6	
Race				0.320
White	61/105	50.5	45.0	
Black	80/123	46.3	35.0	
Others*	203/342	50.4	42.4	
Smoking status				**0.030**
Never-smoker	51/95	59.0	49.5	
Smoker	171/275	46.0	38.5	
Ex-smoker	122/200	50.5	41.0	
Drinking status				**<0.0001**
Never-drinker	93/176	58.0	49.0	
Drinker	113/161	39.0	31.0	
Ex-drinker	138/233	50.6	42.5	
Professional who referred				**0.008**
Dentist	34/78	63.0	59.0	
Physician	308/488	47.5	38.3	
Pain				**< 0.0001**
No	85/183	61.2	56.3	
Yes	259/387	44.4	34.1	
Surgical margin				0.844
Positive	33/65	66.1	54.0	
Negative	18/48	66.6	62.5	
Tumor (T)				**< 0.0001**
1-2	81/174	67.8	55.1	
3-4	233/348	40.22	34.0	
Regional lymph nodes (N)				**< 0.0001**
Yes	223/329	41.0	33.1	
No	100/202	62.4	53.0	
Clinical Stage				**< 0.0001**
I-II	58/121	67.0	55.4	
III-IV	269/418	44.0	36.7	
Metastasis				**0.048**

No	309/522	50.8	42.5	
Yes	35/48	37.5	27.1	
Treatment modality				**0.002**
CT + RT	165/262	51.1	38.5	
RT	40/63	46.0	38.0	
Others**	31/65	61.5	55.3	
Time between diagnosis and first consultation				0.118
< 60 days	55/89	52.8	41.5	
> 60 days	289/481	49.0	41.1	
Time between first consultation and treatment				**0.035**
< 2 months	63/109	56.0	42.2	
> 2 months	231/358	47.0	37.7	
Tumor site				0.310
Oropharynx	99/172	51.2	42.4	
Oral Cavity	221/348	47.4	39.0	
Others***	24/50	60.0	52.0	

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=338). and Yellow (n=3). **Surgery (n=22). surgery + RT (n=12). surgery + CT (n=5). and surgery + RT + CT (n=26). ***Parotid (n= 28) and Nasophanynx (n=22).

Supplement Table 2. Log-rank analysis associated with disease-specific survival outcome of the clinicopathological features of 235 squamous cell carcinoma cases.

Variables	Deaths/ Total	2-year survival rate (%)	5-year survival rate (%)	*p*-value
Overall	142/235	50.2	40.4	
Age				0.471
< 50 years	24/37	43.2	35.1	
50 59 years	51/81	49.4	38.3	
> 60 years	67/117	53.0	44.0	
Sex				0.377
Male	113183	48.6	38.2	
Female	29/52	55.8	48.0	
Zone				0.748
Urban	122/204	50.0	41.2	
Rural	20/31	51.6	35.5	
Race				0.895
White	29/52	48.0	44.2	
Black	30/48	54.2	37.5	
Other	83/135	49.6	40.0	
Smoking status				0.164
Never-smoker	19/41	65.8	56.0	
Smoker	73/116	46.5	37.1	
Ex-smoker	50/78	47.4	37.1	
Drinking status				**0.011**
Never-drinker	32/64	62.5	51.6	
Drinker	50/72	38.9	30.6	
Ex-drinker	60/99	50.5	40.4	
Professional who referred				**0.072**
Dentist	18/40	60.0	60.0	
Physician	124/195	42.3	36.4	
Pain				**0.001**
No	24/60	65.0	60.0	
Yes	118/175	45.1	33.7	
Surgical margin				0.431
Positive	19/33	60.6	45.4	
Negative	10/26	65.4	61.5	
Tumor (T)				**<0.0001**
1-2	31/68	70.6	54.4	
3-4	97/143	40.5	32.9	
Regional lymphnodes (N)				**<0.0001**
Yes	45/91	63.7	51.6	
No	85/121	39.7	30.6	
Clinical Stage				**0.002**
I-II	24/53	70.0	54.7	
III-IV	107/163	44.2	35.6	
Metastasis				0.445

No	130/218	50.9	41.3	
Yes	12/17	41.1	29.4	
Treatment modality				**0.012**
CT + RT	69/101	46.5	32.7	
RT	7/19	68.4	63.2	
Others**	20/41	63.4	53.7	
Time between diagnosis and first consult				**0.021**
> 60 days	129/205	48.0	38.0	
< 60 days	13/30	66.7	56.7	
Time between first visit and treatment				**0.002**
> 2 mouths	102/148	42.6	32.4	
< 2 mouths	21/45	71.1	53.3	
Tumor site				0.590
Oropharynx	31/55	58.2	43.6	
Oral Cavity	101/164	47.6	39.4	
Others***	10/16	50.0	37.5	

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=130). and Yellow (n=2). **Surgery (n=9). surgery + RT (n=7). surgery + CT (n=3). and surgery + RT + CT (n=22). ***Parotid (n= 5) and Nasophanynx (n=11).

Supplement Table 3. Log-rank analysis associated with disease-free survival outcome of the clinicopathological features of 120 squamous cell carcinoma cases.

Variables	Deaths/ Total	2-year survival rate (%)	5-year survival rate (%)	*p*-value
Overall	**29/120**	83.3	77.5	
Age				0.278
< 50 years	2/15	93.3	86.7	
50 59 years	14/43	76.7	69.8	
> 60 years	13/62	85.5	80.6	
Sex				0.531
Male	23/91	82.4	75.8	
Female	6/29	86.2	82.8	
Zone				0.171
Urban	23/103	86.4	79.6	
Rural	6/17	64.7	64.7	
Race				0.848
White	7/30	86.7	80.0	
Black	6/23	73.9	73.9	
Other	16/67	85.0	77.6	
Smoking status				0.790
Never-smoker	6/27	88.9	81.5	
Smoker	15/57	82.5	73.7	
Ex-smoker	8/36	80.5	80.5	
Drinking status				0.935
Never-drinker	10/41	85.4	78.0	
Drinker	5/26	88.5	80.8	
Ex-drinker	14/53	79.2	75.5	
Professional				0.751
Dentist	5/25	92.0	84.0	
Physician	24/95	81.0	75.8	
Pain				0.803
No	11/47	89.4	78.7	
Yes	18/73	82.2	76.7	
Surgical margin				0.119
Positive	11/25	76.0	64.0	
Negative	2/18	88.9	88.9	
Tumor (T)				0.732
1-2	14/50	84.0	74.0	
3-4	14/59	81.3	78.0	
Regional lymphnodes (N)				0.808
Yes	17/62	83.9	74.2	
No	11/47	80.9	78.7	
Clinical Stage				0.473
I-II	13/41	80.5	70.7	
III-IV	16/71	83.0	78.9	
Metastasis				**0.005**
No	23/109	86.2	80.7	
Yes	6/11	54.5	45.5	
Treatment modality				0.564
CT + RT	14/45	35.5	68.9	
RT	3/15	86.6	80.0	

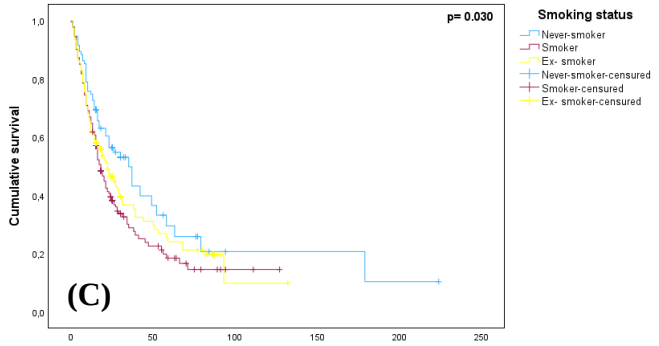
Others**	9/29	83.0	7	
Time between diagnosis and first consult				0.642
> 60 days	25/100	84.0	77.0	
< 60 days	4/20	80.0	80.0	
Time between first visit and treatment				0.728
> 2 mouths	20/66	78.8	72.7	
< 2 mouths	8/30	80.0	73.3	
Tumor site				0.329
Oropharynx	9/32	75.0	72.0	
Oral Cavity	20/82	85.4	78.0	
Others***	0/6	-	-	

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=64). and Yellow (n=2). **Surgery (n=7). surgery + RT (n=6). surgery + CT (n=3). and surgery + RT + CT (n=13). ***Parotid (n= 4) and Nasophanynx (n=2).

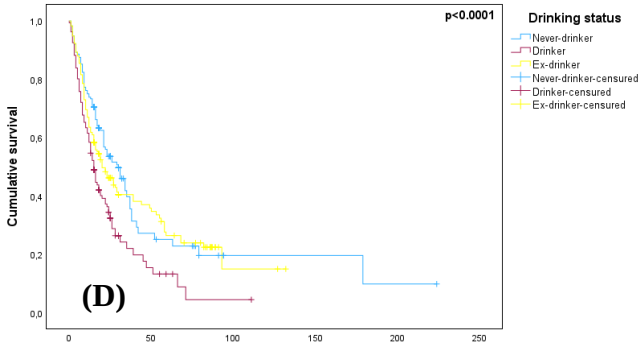
Supplement Figure 1: Kaplan-Meier overall survival curves of patients with oral squamous cell CARCINOMA diagnosed in Governador Valadares, by smoking status(A), drinking status (B), Professional who referred (C), Pain (D), Tumor (T) (E), Regional lymph

nodes (N) (F), Clinical Stage (G), Metastasis (H), Treatment modality (I), Time between first consultation and treatment (J).

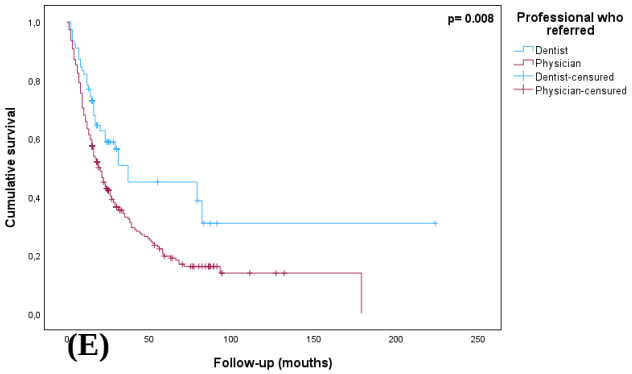
(A)



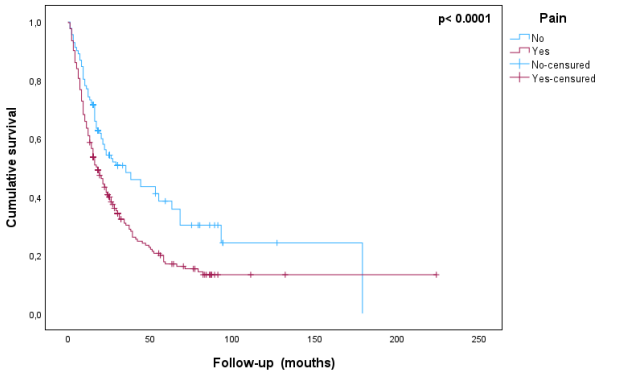
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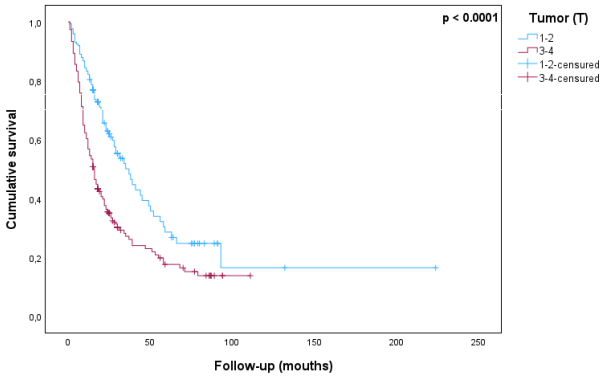
(C)



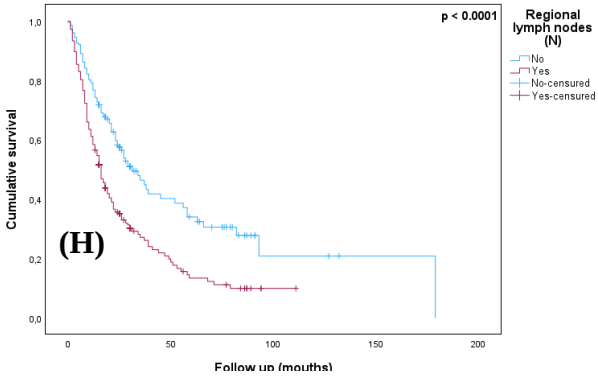
(D)



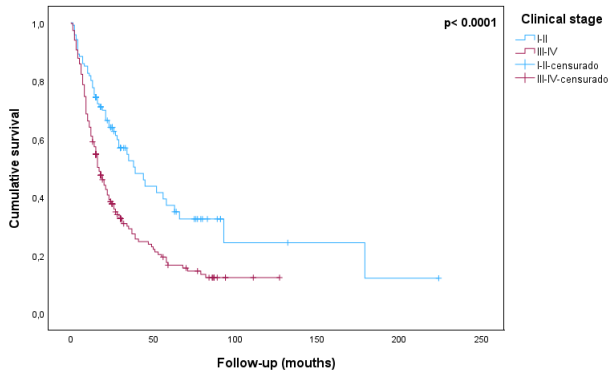
(E)



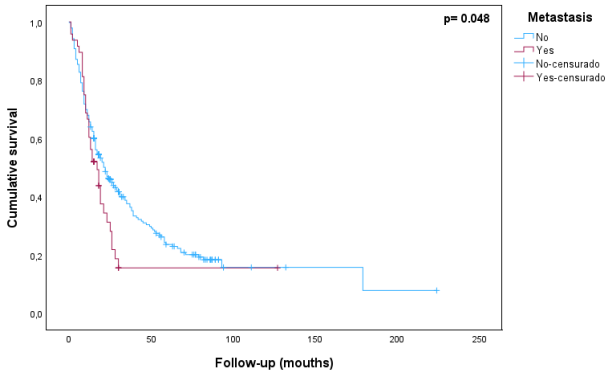
(H)

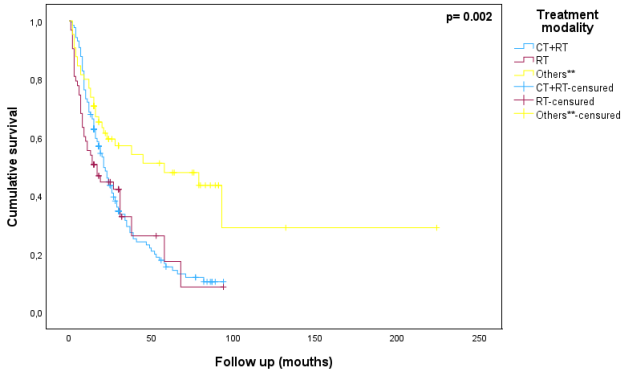


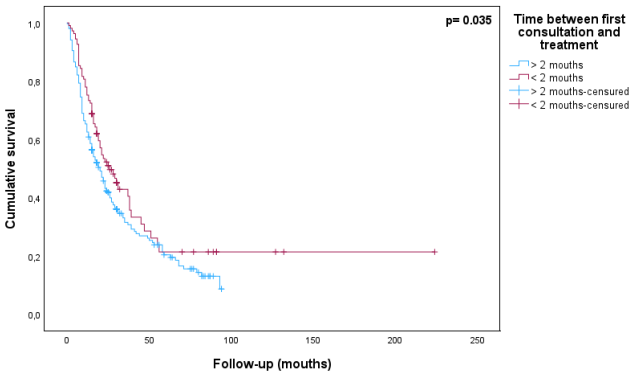
(I)



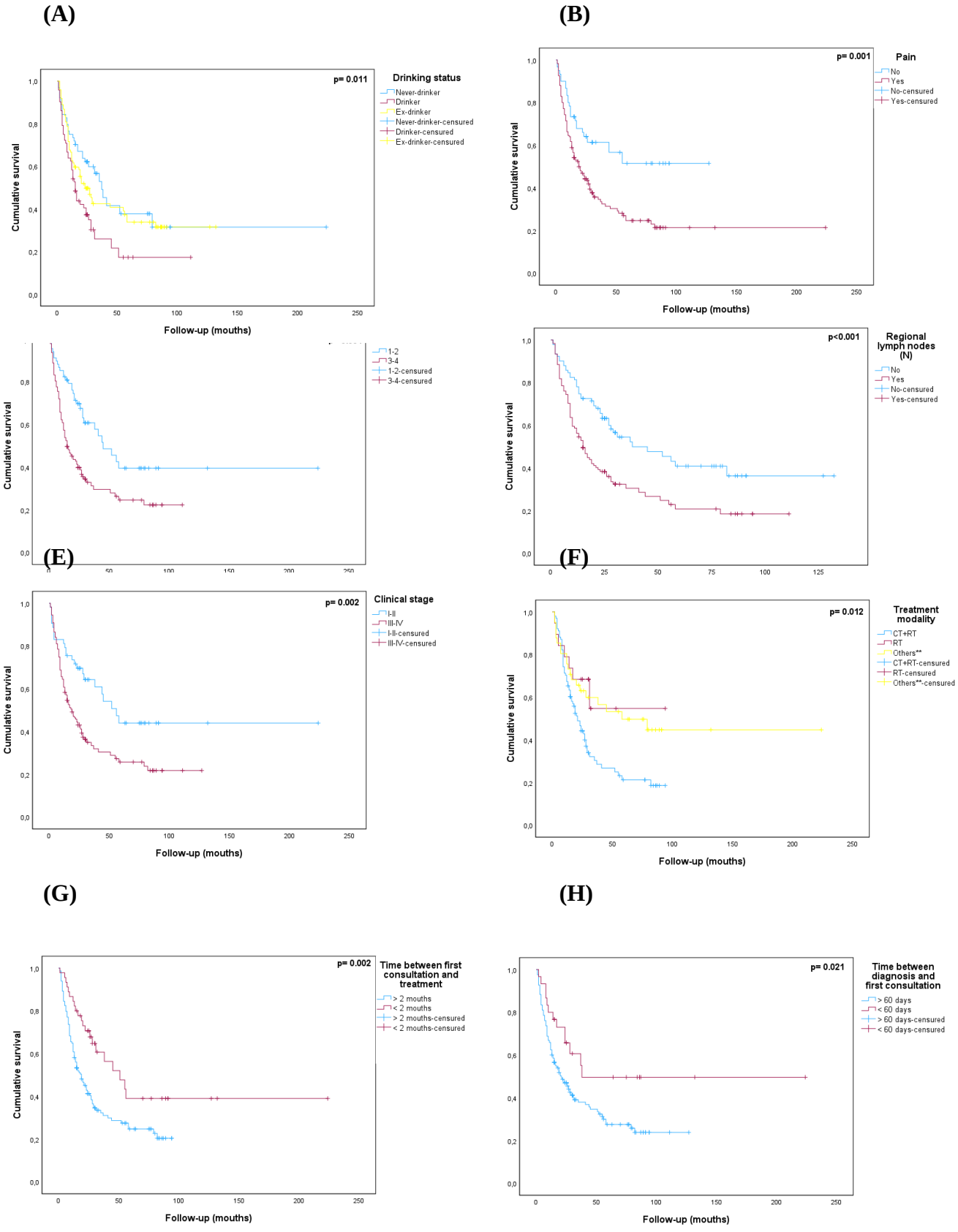
(J)




p= 0.002
Treatment modality
CT+RT
RT
Others**
CT+RT-censured
RT-censured
Others**-censured
Cumulative survival
1,0
0,8
0,6
0,4
0,2
0,0
0
50
100
150
200
250
Follow up (mouths)

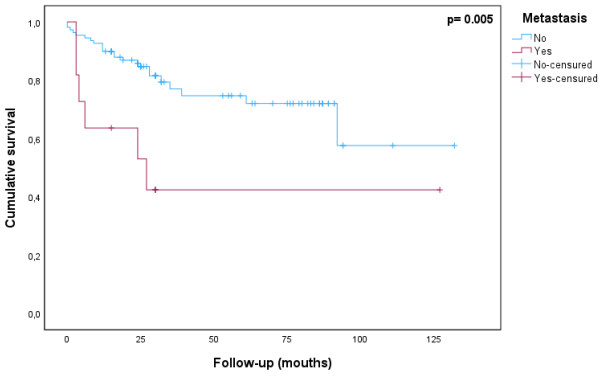

p= 0.035
Time between first consultation and treatment
> 2 mouths
< 2 mouths
> 2 mouths-censured
< 2 mouths-censured
Cumulative survival
1,0
0,8
0,6
0,4
0,2
0,0
0
50
100
150
200
250
Follow-up (mouths)

Supplement Figure 2: Kaplan-Meier disease-specific survival curves of patients with oral squamous cell CARCINOMA diagnosed in Governador Valadares, by smoking status(A), Pain (B), Tumor (T) (C), Regional lymph nodes (N) (D), Clinical Stage (E), Treatment modality (F), Time between diagnosis and first consultation (G), Time between first consultation and treatment (H).



Supplement Figure 3: Kaplan-Meier disease-free survival curves of patients with oral squamous cell CARCINOMA diagnosed in Governador Valadares, by metastasis (A).

(A)



Supplement Table 4. Hazard ratio associated with overall survival in squamous cell carcinoma cases.

Variables	Univariate analysis HR (95% CI)	*p*-value	Multivariate analysis HR (95% CI)	*p*-value
Age				
< 50 years	1.131(.818-1564)	.456	-	
50-59 years	Reference		-	
> 60 years	1.058(832-1345)	.664	-	
Sex				
Male	1.175 (.905-1.527)	.226	-	
Female	Reference		-	
Zone				
Urban	Reference		-	
Rural	1.128 (.838-1.520)	.427	-	
Race				
White	Reference			
Black	1.283 (.919-1.792)	**.143**	1.641 (1.039-2.590)	**.034**
Others*	1.122 (.843-1.494)	.430	1.516 (1.017-2.260)	**.041**
Smoking status				
Not Smoker	Reference			
Smoker	1.517 (1.106- 2.082)	**.010**	1.439 (0.872-2.373)	**.154**
Ex- smoker	1.349 (. 970-1.875)	**.075**	1.598 (0.950-2.687)	**.077**
Drinking status				
Never-drinker	Reference			
Drinker	1.763(1.337-2.324)	**<.001**	1.591 (1.051-2.407)	**.028**
Ex-drinker	1.190(. 913-1.551)	**.199**	0.939 (0.634-1.391)	.754
Professional who referred				
Dentist	Reference			
Physician	1.723 (1.208 - 2.457)	**.003**	1.392 (0.878-2.205)	**.159**
Pain				
No	Reference			
Yes	1.618 (1.266-2.068)	**<.0001**	1.384 (0.980-1.956)	**.065**
Surgical margin				
Negative	Reference			
Positive	1.060 (.591-1.903)	.845		
Tumor (T)				
1-2	Reference			
3-4	1.958(1.519-2.524)	**<.0001**	1.737 (1.117-2.700)	**.014**
Regional lymph nodes (N)				
No	Reference			
Yes	1.851 (1.459-2.349)	**<.0001**	1.751 (1.220-2.512)	**.002**
Clinical Stage				
I-II	Reference			

III-IV	1.904(1.427-2.539)	**<.001**	0.896 (0.474-1.694)	.735
Metastasis		**.053**		
No	Reference			
Yes	1.414 (.995-2.009)	**<.001**	1.727 (1.083-2.752)	**.022**
Treatment modality				
CT + RT	1.855 (1.256-2.741)	**.002**	0.914 (0.569-1.468)	.709
RT	2.148 (1.336-3.453)	**.002**	2.210 (1.246-3.922)	**.007**
Others**	Reference			
Time between diagnosis and first consult				
> 60 days	1.257 (.939-1.683)	**.125**	1.277 (0.851-1.916)	.238
< 60 days	Reference			
Time between first visit and treatment				
> 2 mouths	1.342 (1.015-1.774)	**.039**	1.151 (0.797-1.661)	.454
< 2 mouths	Reference			
Tumor site				
Oropharynx	1.326(.849-2.072)	.215	1.019 (0.738-1.407)	.907
Oral Cavity	1.381(.906-2.105)	**.134**	0.983 (0.509-1.898)	.958
Others***	Reference			

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=338). and Yellow (n=3). **Surgery (n=22). surgery + RT (n=12). surgery + CT (n=5). and surgery + RT + CT (n=26). ***Parotid (n= 28) and Nasophanynx (n=22)

Supplement Table 5. Hazard ratio associated with disease-free survival in oral squamous cell carcinoma.

Variables	Univariate analysis HR (95% CI)	*p*-value	Multivariate analysis HR (95% CI)	*p*- value
Age				
< 50 years	Reference			
50-59 years	2.456 (.557-1.832)	.235	-	
> 60 years	1.494 (.337-6.628)	.597	-	
Sex				
Male	1.330(.541-3.271)	.534	-	
Female	Reference		-	
Zone				
Urban	Reference			
Rural	1.858 (.752-4.590)	**.179**	2.013 (0.241-16.802)	**.**518
Race				
White	Reference			
Black	1.368 (.459-4.083)	.574		
Other	1.115 (.458-2.71)	.811		
Smoking status				
Never-smoker	Reference			
Smoker	1.057 (.366-3.058)	.531	-	
Ex-smoker	1.317 (.557-3.116)	.918	-	
Drinking status				
Never-drinker	1.167 (.398-3.420)	.779		
Drinker	Reference		-	
Ex-drinker	1.210 (.433-3.382)	.717	-	
Professional				
Dentist	Reference		-	
Doctor	1.169 (.444-3.076)	.752	-	
Pain				
No	Reference			
Yes	1.100 (.517-2.341)	.804	-	
Surgical margin				
Negative	Reference			
Positive	3.160 (.688-14.515)	**.139**	3.469 (0.747-16.119)	**.112**
Tumor (T)				
1-2	Reference			
3-4	1.138 (.542-2.388)	.733	-	
Regional lymphnodes (N)				
Yes	1.098 (.514-2.348)	.809		
No	Reference		-	
Clinical Stage				
I-II	1.307 (.627-2.724)	.476	-	
III-IV	Reference			
Metastasis				

No	Reference			
Yes	3.417 (1.376-8.485)	**.008**	5.445 (1.087-27.261)	**.039**
Treatment modality				
CT + RT	1.841 (.526-6.444)	.340	-	
RT	Reference			
Others**	1.371 (.367-5.123)	**.**639	-	
Time between diagnosis and first consult				
> 60 days	1.283 (.446-3.698)	.644	-	
< 60 days	Reference		-	
Time between first visit and treatment				
> 2 mouths	1.156(.509-2.627)	.729	-	
< 2 mouths	Reference		-	
Tumor site				
Oropharynx	Reference			
Oral Cavity	.000		-	
Others***	.000		-	

CT – Chemotherapy; RT – Radiotherapy. *Brazilian Indigenous (n=1). Brown (n=64). and Yellow (n=2). **Surgery (n=7). surgery + RT (n=6). surgery + CT (n=3). and surgery + RT + CT (n=13). ***Parotid (n= 4) and Nasophanynx (n=2).

3 CONCLUSÃO

O carcinoma espinocelular (CEC) é a neoplasia maligna mais comum na região de cabeça e pescoço. Apesar dos diversos avanços terapêuticos nas últimas décadas, a sobrevida global dos pacientes ainda permanece baixa. Compreender os fatores que contribuem para a atual taxa de sobrevida no Brasil pode ter impactos diretos em políticas públicas.

Este é o primeiro estudo a investigar fatores envolvidos na taxa de sobrevida em um centro de referência regional no interior de um país em desenvolvimento. Os resultados confirmam fatores independentes já conhecidos, como tabagismo, consumo de álcool e invasão de linfonodos. Além disso, o estudo destaca o atraso superior a dois meses entre a primeira consulta e o início do tratamento como um fator independente que afeta negativamente a sobrevivência. O encaminhamento tardio por parte dos médicos também foi identificado como um fator que piora a sobrevida geral.

Considerando que os pacientes com câncer de boca são frequentemente diagnosticados em estágios avançados, o estudo também buscou compreender o comportamento de busca por saúde relacionado ao CEC. Utilizando o Modelo de Autorregulação (SRM), a pesquisa demonstrou que esta é uma ferramenta eficaz para explicar as medidas de enfrentamento adotadas pelos pacientes. As estratégias de enfrentamento identificadas, como automedicação, busca por consulta médica, abandono de tratamento e consulta com dentistas generalistas, refletem a interpretação dos sintomas pelos pacientes e sugerem a necessidade de um novo paradigma para a saúde pública.

Além disso, a temática central de ambos os trabalhos visa aumentar a conscientização sobre o câncer bucal e intensificar o conhecimento sobre a taxa de sobrevivência do câncer de boca, a fim de contribuir para uma melhor gestão em saúde.

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ANEXO A –Instruções aos autores preconizadas pelo periódico *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*

Before you begin

Section Scope Statements

The *Oral and Maxillofacial Surgery Section* aims to publish an extensive range of original articles that advances patient care through enhanced understanding of diagnosis, surgical and adjunctive treatment of diseases, and injuries and defects involving both the functional and esthetic aspects of the hard and soft tissues of the oral and maxillofacial regions. The section also seeks research regarding both the basic science of and management of persons with oral and maxillofacial conditions. Articles presenting ethical, original, well-documented, and reproducible research are given preference.

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A structured abstract, limited to 200 words, must be used for data-based research articles. The structured abstract is to contain the following major headings: Objective(s); Study Design; Results; and Conclusion(s). The Objective(s) reflects the purpose of the study, that is, the hypothesis that is being tested. The Study Design should include the setting for the study, the subjects (number and type), the treatment or intervention, and the type of statistical analysis. The Results include the outcome of the study and statistical significance if appropriate. The Conclusion(s) states the significance of the results. For nondata-based submissions, the abstract should be an

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List funding sources in this standard way to facilitate compliance to funder's requirements:

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Reference to a book:

2. W. Strunk Jr., E.B. White, The Elements of Style, fourth ed., Longman, New York, 2000.

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3. G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 2009, pp. 281–304.

[dataset] 5. Oguro, M, Imahiro, S, Saito, S, Nakashizuka, T. Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1; 2015. http://dx.doi.org/10.17632/xwj98nb39r.1.

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Introduction

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[4] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 2009, pp. 281-304.

Reference to a website:

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ANEXO C – Aprovação pelo Comitê de ética

UFJF - UNIVERSIDADE FEDERAL DE JUIZ DE FORA - MG

PARECER CONSUBSTANCIADO DO CEP

DADOS DA EMENDA

Titulo da Pesquisa: PERFIL EPIDEMIOLÓGICO DE CASOS INCIDENTES DE CÂNCER DE BOCA E OROFARINGE DIAGNOSTICADOS NO MUNICÍPIO DE GOVERNADOR VALADARES - MG.

Pesquisador: Clarice Lima Alvares da Silva

Área Temática:

Versão: 3

CAAE: 49855815.4.0000.5147

Instituição Proponente: Universidade Federal de Juiz de Fora UFJF

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 5.510.352

Apresentação do Projeto:

As informações elencadas nos campos "Apresentação do Projeto", "Objetivo da Pesquisa" e "Avaliação dos Riscos e Benefícios" foram retiradas do arquivo Informações Básicas da Pesquisa.

"Dos tumores malignos que acometem os seres humanos, o câncer de boca e orofaringe é o sexto tipo de câncer mais incidente no mundo. Entre os fatores de risco para o desenvolvimento seu desenvolvimento, destacam-se aqueles inerentes ao comportamento e hábitos de vida, tais como tabagismo, etilismo, dietas pobres em frutas e vegetais, exposição à luz ultravioleta e má higiene bucal, além de ocorrência de infecções virais e

condições biológicas tais como idade acima dos 50 anos. A despeito das constantes atualizações nos dados epidemiológicos e dos avanços nos meios de diagnóstico e tratamento, a taxa de sobrevida em 5 anos dos pacientes acometidos pelo câncer de boca, não tem aumentado por décadas. Um dos principais fatores que contribuem para esse quadro é a apresentação de pacientes com estádios clínicos avançados da doença, tendo como

consequência, a necessidade de tratamento mutilador. Este projeto objetiva descrever o perfil epidemiológico dos casos incidentes de câncer de boca e orofaringe de pacientes atendidos em um centro de referência em oncologia no interior de Minas Gerais. Serão analisados prontuários de pacientes com diagnóstico de câncer comprovado por laudo anatomopatológico no período de janeiro de 2009 a julho de 2015, com exploração de

Endereço: JOSE LOURENCO KELMER S/N
Bairro: SAO PEDRO **CEP:** 36.036-900
UF: MG **Município:** JUIZ DE FORA
Telefone: (32)2102-3788 **E-mail:** cep.propp@ufjf.br

ANEXO D – Aprovação pelo Comitê de ética

UFJF - UNIVERSIDADE FEDERAL DE JUIZ DE FORA - MG

PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Análise de fatores associados ao atraso no diagnóstico de carcinoma espinocelular oral

Pesquisador: Sibele Nascimento de Aquino
Área Temática:
Versão: 1
CAAE: 31090820.2.0000.5147
Instituição Proponente: UNIVERSIDADE FEDERAL DE JUIZ DE FORA UFJF
Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 4.073.047

Apresentação do Projeto:
O Projeto com o titulo: Análise de fatores associados ao atraso no diagnóstico de carcinoma espinocelular oral é um estudo qualitativo, sobre os fatores associados ao diagnóstico tardio do carcinoma espinocelular oral no município de Governador Valadares, Minas Gerais, Brasil. A elevada incidência e mortalidade de pacientes com carcinoma espinocelular oral evidencia a relevância de estudos que buscam a análise dos fatores relacionados ao diagnóstico tardio, visto que grande parcela dos casos diagnosticados da doença é detectada em fase avançada Os dados serão coletados por meio de questionário, formulado previamente para o estudo. Posteriormente, serão aplicados a participantes com diagnóstico de Carcinoma Espinocelular Oral (CEC), atendidos pelo Núcleo de Especialistas em Oncologia (NEO), durante o ano de 2020. As variáveis do estudo incluem aspectos sociodemográficos, sendo sexo, idade, escolaridade, estado civil, profissão/ocupação e local de residência. Além disso, incluem os hábitos de alimentação, tabagismo, etilismo e uso de outras drogas. Os aspectos da doença relacionados ao diagnóstico e tratamento serão abrangidos por meio de abordagem qualitativa.
As informações elencadas nos campos "Apresentação do Projeto", "Objetivo da Pesquisa" e "Avaliação dos Riscos e Benefícios" foram retiradas do arquivo Informações Básicas da Pesquisa.

Objetivo da Pesquisa:
Objetivo Primário:

Endereço: JOSE LOURENCO KELMER S/N
Bairro: SAO PEDRO **CEP:** 36.036-900
UF: MG **Município:** JUIZ DE FORA
Telefone: (32)2102-3788 **Fax:** (32)1102-3788 **E-mail:** cep.propesq@ufjf.edu.br