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Knowledge of oral and oropharyngeal cancer by dental surgeons: an integrative review

Conhecimento dos cirurgiões-dentistas sobre câncer de boca e orofaringe: uma revisão integrativa

Conocimiento de los quirúrgicos dentistas sobre cáncer de boca y orofaríngeo: una revisión integrativa

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ABSTRACT

Objectives: to identify the evidence available in the literature on the knowledge of dentists regarding risk factors and early diagnosis of oral and oropharyngeal cancer. **Methods:** it is an integrative review of the literature. Boolean descriptors and operators were searched in the PubMed and LILACS databases, using gray literature, in English, Spanish and Portuguese. **Results:** of the 79 PubMed and 152 LILACS articles, 24 were selected. Of these, eight showed good knowledge of dentists, while most showed low or little knowledge of risk factors and early diagnosis in dentists. All studies, however, highlight the need for continuing education to improve and maintain knowledge about risk factors and early diagnosis. **Conclusions:** most dental surgeons have insufficient knowledge of oral/oropharyngeal cancer. Continued education is suggested, aiming at improving knowledge and early diagnosis.
Descriptors: Dental Surgeons; Knowledge; Mouth Cancer; Epidemiological Factors; Health Education.

RESUMO

Objetivos: identificar as evidências disponíveis na literatura sobre o conhecimento dos cirurgiõesdentistas quanto aos fatores de risco e diagnóstico precoce do câncer de boca e orofaringe. **Métodos:** trata-se de uma revisão integrativa da literatura. Foram realizadas buscas mediante os descritores e operadores booleanos na base de dados PubMed e LILACS, com uso de literatura cinza, nos idiomas inglês, espanhol e português. **Resultados:** dos 79 artigos do PubMed e 152 do LILACS, 24 foram selecionados. Destes, oito mostraram bom conhecimento dos dentistas, enquanto a maioria mostrou baixo ou pouco conhecimento sobre fatores de risco e diagnóstico precoce em dentistas. Todos os estudos, no entanto, destacam a necessidade de educação continuada para melhorar e manter o conhecimento sobre fatores de risco e diagnóstico precoce. **Conclusões:** grande parte dos cirurgiões-dentistas apresenta um conhecimento insuficiente sobre câncer de boca/orofaringe. É sugerida a educação continuada, visando melhorar o conhecimento e o diagnóstico precoce.
Descritores: Cirurgiões-Dentistas; Conhecimento; Câncer de Boca; Fatores Epidemiológicos; Educação em Saúde.

RESUMEN

Objetivos: identificar evidencias disponibles en la literatura sobre el conocimiento de los quirúrgicos dentistas cuanto a los factores de riesgo y diagnóstico precoz del cáncer de boca/orofaríngeo. **Métodos:** revisión integrativa de la literatura. Se realizaron búsquedas mediante los descriptores y operadores booleanos en base de datos PubMed y LILACS, con uso de literatura gris, en los idiomas inglés, español y portugués. **Resultados:** de los 79 artículos del PubMed y 152 del LILACS, 24 seleccionados. De estos, ocho mostraron bueno conocimiento de los dentistas, mientras la mayoría mostró bajo o poco conocimiento sobre factores de riesgo y diagnóstico precoz en dentistas. Todos los estudios, aunque, destacan la necesidad de educación continuada para mejorar y mantener el conocimiento sobre factores de riesgo y diagnóstico precoz. **Conclusiones:** gran parte de los quirúrgicos dentistas presenta un conocimiento insuficiente sobre cáncer de boca/orofaríngeo. Sugerida educación continuada, objetivando mejorar el conocimiento y el diagnóstico precoz.
Descriptores: Quirúrgicos Dentistas; Conocimiento; Cáncer de Boca; Factores Epidemiológicos; Educación en Salud.

INTRODUCTION

Oral and oropharyngeal cancers (OPC) have characteristics in common regarding their epidemiology, risk factors, diagnosis and treatment. According to estimates by the National Cancer Institute (INCA), for each year of the triennium 2020-2021?, 15,810 new cases of oral cancer will be diagnosed in Brazil, being the 5th most frequent in men and the 13th in women[1]em 2008, 36 milhões dos óbitos (63%. In 2018, 354,864 new cases of lip and oral cavity cancers were estimated worldwide, being responsible for 177,384 deaths in the same period[2].

The most frequent type is squamous cell carcinoma (SCC). The main causes of oral cancer are alcohol abuse and smoking[3] em 2008, 36 milhões dos óbitos (63%. And the Human Papilloma Virus (HPV) infection is associated with the development, mainly, of oropharynx, tonsil and tongue base cancers[1-2]em 2008, 36 milhões dos óbitos (63%.

Dental surgeons (DS) play a key role among health professionals in counseling patients about the early detection of this disease. The role of these professionals is relevant because they have a better chance of identifying asymptomatic lesions through routine exams and diagnosing the disease before its development[4].

Since SCC can be identified at an early stage by the visual and tactile aspects, DSs are health professionals who most likely can detect oral cancer early on; consequently, the knowledge of these professionals should be evaluated in order to offer targeted continuing education programs, since late diagnosis is still a serious public health problem that raises morbidity and mortality rates[5].

Studies conducted in various parts of the world show lack of knowledge of the DSs on oral and oropharyngeal cancer[6-8]. In Brazil, research has also shown a low level of knowledge of the subject by these professionals[4,9-10].

Surely, it is up to the DS to know the risk factors and early detection strategies for oral cancer. However, this lack of knowledge compromises the epidemiological data, whether on a national or international scale, regarding the cure of the disease, once that the diagnosis happens in accelerated stages[9,11].

The population itself is also unaware of the disease and takes time to seek care, besides not attending the dentist regularly, so the greatest delay in the diagnosis of oral cancer is related to the patient (from the perception of the first sign or symptom to the first consultation at a reference center). However, delay in diagnosis may also be related to health professionals (the period that the specialized dentist takes to establish the definitive diagnosis) and to the health system (difficulty in scheduling appointments in specialized centers)[12].

Thus, it is clear the need to increase the DSs commitment to the integral guidance of prevention and detection of potentially malignant oral lesions and malignant. Furthermore, it is required to elaborate public policies for population awareness, aiming to increase the dissemination of information about the factors related to the development of oral cancer[13].

Increasingly, it is needed the engage of the DS in the systematic guidance to patients regarding on how to prevent and quickly detect the signs and symptoms of oral cancer. However, there is still a lack of professional knowledge about the correct ways to act in these fields, reflecting on national and international data, which has shown a high incidence of oral cancer diagnosed in advanced clinical stages, associated with few preventive measures by the population[14].

Because it is understood that the knowledge of the DS is important in the chain of events that leads to the late diagnosis, an integrative review was carried out with the objective of identifying the evidence available in the literature on the knowledge of DSs in relation to risk factors and early diagnosis of OPC. The review question was: What is the level of knowledge of dentists about oral and oropharyngeal cancer, regarding risk factors and early diagnosis?

OBJECTIVES

To identify the evidence available in the literature on the knowledge of dentists regarding risk factors and early diagnosis of oral and oropharyngeal cancer.

METHODS

It is an integrative review of the literature. The theme of this review was based on the guiding question presented in the introduction; and, as a primary outcome of analysis, the knowledge of dentists about oral/oropharyngeal cancer was used.

The bibliographic survey was conducted from July to August 2019 in the PubMed and LILACS databases. Two researchers conducted an independent search. The bibliographic search included original articles, review articles, the site of the National Cancer Institute and Master's dissertations. The data collection was carried out in two stages. The first consisted in searching the base, with details of the quantity of articles. 79 articles were found in PubMed and 152 in LILACS. After the selection process, a search was made in the gray literature; however there were no extra findings. The eligibility criteria and reading of all titles and abstracts were evaluated, and 24 articles were selected. In the second stage, the exclusion criteria were checked and the works were read in their entirety. Figure 1 shows the flowchart of the studies included in the integrative review and also of the excluded ones.

The inclusion criteria were: to be available in full; the article to be written in Portuguese, English and Spanish; to use knowledge of the DSs in relation to risk factors and early diagnosis of OPC as the main focus of the study; and to be published in any period, in order to cover a larger quantity of articles.

The searches were carried out using Boolean descriptors and operators. The following search strategy was employed: ((((((Dentists[MeSH Terms]) OR (Dentist OR Prosthodontists OR Prosthodontist OR Dentists, Prosthetic OR Dentist, Prosthetic OR Prosthetic Dentist OR Prosthetic Dentists OR Dentists, Restorative OR Dentist, Restorative OR Restorative Dentist OR Restorative Dentists OR Dentists, Pediatric OR Dentist, Pediatric OR Pediatric Dentist OR Pediatric Dentists OR Periodontists OR Periodontist))) AND (((((Knowledge[MeSH Terms]) OR Knowledge)) OR ((Health Knowledge, Attitudes, Practice[MeSH Terms]) OR (Health, Attitude to OR Health Attitude OR Attitude, Health OR Attitudes, Health OR Health Attitudes)))) AND (((Mouth Neoplasms OR Oropharyngeal Neoplasms[MeSH Terms])) OR (Mouth Neoplasm OR Neoplasm,

Mouth OR Neoplasms, Oral OR Neoplasm, Oral OR Oral Neoplasm OR Oral Neoplasms OR Neoplasms, Mouth OR Cancer of Mouth OR Mouth Cancers OR Oral Cancer OR Cancer, Oral OR Cancers, Oral OR Oral Cancers OR Cancer of the Mouth OR Mouth Cancer OR Cancer, Mouth OR Cancers, Mouth))) AND ((((Epidemiologic Factors[MeSH Terms]) OR (Factor, Epidemiologic OR Epidemiologic Determinant OR Determinant, Epidemiologic OR Determinants, Epidemiologic OR Epidemiologic Determinants OR Factors, Epidemiologic))) OR ((Risk Factors[MeSH Terms]) OR (Factor, Risk OR Factors, Risk OR Risk Factor OR Population at Risk OR Risk, Population at OR Populations at Risk OR Risk, Populations at)))) AND ((Health Education, Dental[MeSH Terms]) OR (Education, Dental Health OR Dental Health Education)).

The following steps were followed: identification of the theme and formulation of the research question; elaboration of the inclusion criteria of the articles; construction of the instrument to collect relevant data from the articles; evaluation and analysis of the articles selected in the research; interpretation and discussion of the results obtained; and presentation of the review. The analysis of the selected studies was categorized in a chart, containing descriptive data: title of the article, year of publication, country of publication, number of participants, design, interventions and outcomes. After this stage, the discussion was built according to what was gathered from information.

RESULTS

A total of 24 articles were selected, ten of which were present in both databases. Chart 1 describes the main characteristics of the 24 selected articles, containing: year of publication, journal, and type of study, sample, objective and main results.

Of the total, six were from national journals, while 18 were from international journals. Although there was no time restriction for the search and inclusion of articles, it was found that the subject in question is of recent approach in the literature, covering the period from 1998 to 2019. Furthermore, interest in this field of research is global, with studies in several countries, such as Italy, Spain, Germany, England, United States, Iran, Malaysia, Kuwait, Chile, Jordan, Japan and Brazil.

Regarding the type of study, the cross-sectional ones predominated, with 22 articles; additionally, two articles were found, being a community trial and an exploratory study article. The sample size varied widely: from 44[14] to 1,129 participants[16]and the likelihood of survival is remarkably better when detected early. The dental profession shares an important responsibility toward early screening, prompt referral and treatment. AIMS: The aim of the present study was to assess the oral cancer knowledge, attitude and screening practices among dental practitioners in Bangalore city. MATERIALS AND METHODS: This descriptive cross-sectional study was conducted using a 24-item self-administered questionnaire involving private dental practitioners of Bangalore city. A total of 1556 private dental practitioners of Bangalore made up the sampling frame of the study, and a sample of 250 dentists was found to be sufficient. Two hundred and fifty dentists were selected by cluster random sampling. The institutional review committee approved the study. Data were entered using SPSS 13.01. RESULTS: A total of 250 practicing dentists were approached, of which 240 participated in the study. Among the various risk factors for causing oral cancer, the use of alcohol was identified as a major risk factor by 238 (99%. Regarding the results of the articles, eight showed a good knowledge of dentists on risk factors and early diagnosis in oral cancer[14-17,20-21,24,30], while most revealed a low or unsatisfactory knowledge. All studies, however, highlighted the need for continuing education to improve and maintain this knowledge.

Of the Brazilian studies included, only those of LIMEIRA, R I. R et al.[14] and SOUZA, J. G. S., et al.[24], performed respectively in Campina Grande-PB and Montes Claros-MG, showed a good knowledge of the dentists.

DISCUSSION

Oral and oropharyngeal cancer is a debilitating condition and corresponds a type of pathology that increases morbidity and mortality rates around the word. It is a pathology whose diagnosis relatively easy and requires the systematic observation of tissues of the mouth and attached structures to recognize

Chart 1 – Articles about the knowledge of dentists who make up the sample of the integrative review

Title	Year of Publication/ Country	Design/number of patients	Intervention	Outcome
Knowledge, opinions and practices of general dentists Regarding oral cancer: a pilot survey[3]	1998 EUA	Cross-sectional n=267	Pilot test of a questionnaire to assess knowledge, opinions and practices about oral cancer among dentists in Maryland, Baltimore.	Knowledge about risk factors for oral cancer, signs and symptoms were inconsistent.
Primary care clinicians' knowledge of oral cancer: a study of dentists and doctors in the North East of England[15]	2001 England	Cross-sectional n=278	To evaluate the knowledge of oral cancer of physicians and dentists in the Northeastern of England.	The knowledge of both groups is generally good, but there are some discrepancies, especially in relation to the knowledge of risk factors and techniques of clinical examination.
Oral Cancer Prevention and Early Detection Knowledge, Practices, and Opinions of Oral Health Care Providers in New York State[16]	2006 USA	Cross-sectional n=1129	To evaluate the knowledge, practices and opinions of dentists and dental hygienists in the state of New York regarding oral cancer prevention and detection.	Dentists and dental hygienists are aware of oral cancer, but there are some gaps in the knowledge of certain risk factors and in the examination of oral cancer.

To be continued

Chart 1

Title	Year of Publication/ Country	Design/number of patients	Intervention	Outcome
Oral cancer and dentists: Knowledge, attitudes, and practices in Italy[6]	2008 Italy	Cross-sectional n=457	To evaluate, through a questionnaire, the knowledge, attitudes and behavior of dentists in relation to oral cancer, in Italy.	Respondents know the main risk factors and only half of them identified the diagnostic procedures.
Câncer bucal – a prática e a realidade clínica dos cirurgiões-dentistas de Santa Catarina[10]	2009 Brazil	Cross-sectional n=385	To evaluate the practice and clinical attitude of dental surgeons in Santa Catarina regarding to oral cancer.	It is necessary to disseminate oral cancer diagnosis services to professionals in Santa Catarina, and make the dentist responsible for diagnosing this disease.
Conhecimento dos cirurgiões-dentistas em relação ao câncer bucal[9]	2010 Brazil	Exploratory Study n=240	To verify the knowledge of the dental surgeon in relation to oral cancer, in Feira de Santana, Bahia.	The dentists did not present the minimum knowledge necessary in relation to the disease.
Knowledge and attitudes about oral cancer among dentists in Spain[7]	2010 Spain	Cross-sectional n=340	To study the knowledge, opinions and attitudes of dentists about aspects of oral cancer in Spain.	There are some gaps in knowledge, strongly suggesting the need for ongoing courses in educational detection and prevention of oral cancer.
Oral cancer: knowledge, practices and opinions of dentists in Ireland[17]	2011 Ireland	Cross-sectional n=254	To assess dentists' knowledge of risk factors and diagnosis in oral cancer in Ireland.	Dentists in Ireland are aware of cancer risk factors and diagnostic concepts.
Oral Cancer Awareness among Dentists in Kuwait[8]	2012 Kuwait	Cross-sectional n=153	To evaluate the knowledge, concepts, practices and diagnostic opinions of dentists in Kuwait in relation to oral cancer prevention and early detection.	Need for better knowledge and education methods for dentists regarding oral cancer.
Avaliação do conhecimento dos cirurgiões-dentistas quanto ao câncer bucal[18]	2012 Brazil	Cross-sectional n=74	To evaluate the knowledge of dentists in the city of Lavras - MG about oral cancer.	The professionals were not properly prepared to prevent and diagnose mouth cancer early.
Knowledge, attitude and screening practices of general dentists concerning oral cancer in Bangalore city[19]	2012 India	Cross-sectional n=240	To evaluate the knowledge, attitude and practices of oral cancer screening among dentists in the city of Bangalore - India.	Given the level of inconsistencies among dentists about knowledge about oral cancer and its clinical practice. The responses suggest the need to develop continuing education opportunities tailored to the needs of dentists.
Early detection of oral cancer: Dentists' opinions and practices before and after educational interventions in Northern-Germany[20]	2013 Germany	Community Trial n=394	To evaluate dentists' opinions and practices on oral cancer after an educational intervention for more than a year in Northern Germany.	Opinions and practices for early detection of oral cancer have improved, particularly for the group of dentists who attended the course.
Dentists Perception of the Role they Play in Early Detection of Oral Cancer[21]	2014 Malaysia	Cross-sectional n=412	To determine dentists' perception of their role in promoting early oral cancer prevention and detection and to measure current dentistry practices in Malaysia.	The level of knowledge about early signs and risk habits associated with oral cancer was high and most reported having performed opportunistic screening and advised patients on risk of quitting.
Impact of Academic and Continuing Education on Oral Cancer Knowledge, Attitude and Practice Among Dentists in North-Western Italy[22]	2014 Italy	Cross-sectional n=479	To assess the knowledge, attitude and practice of dentists in the province of Turin (northwestern Italy) about oral cancer prevention and early detection.	The present study highlights several limitations in education, preparation in oral oncology, as well as a tendency to overestimate their knowledge among dentists in the Province of Turin.
Conhecimentos e atitudes de cirurgiões-dentistas Frente ao câncer bucal[14]	2015 Brazil	Cross-sectional n=44	To characterize the knowledge and attitudes of dentists working in the private network of Campina Grande, Paraíba, about oral cancer.	Dental surgeons were committed to the prevention and diagnosis of oral cancer, understanding the vital importance of diagnosis in the early clinical stage.

To be continued

Chart 1 (concluded)

Title	Year of Publication/ Country	Design/number of patients	Intervention	Outcome
Factors Influencing Early Detection of Oral Cancer by Primary Health-Care Professionals[23]	2016 Jordan	Cross-sectional n=330	To determine early detection practices performed by primary health care professionals, compare subgroups of doctors and dentists, and identify factors that influence the ability to recognize precancerous changes and clinical signs of oral cancer.	The present study demonstrated an inadequate level of knowledge about oral cancer among primary care professionals, showed inadequate early detection practices and limited diagnostic skills.
Comportamentos e conhecimentos de cirurgiões-dentistas da atenção primária à saúde quanto ao câncer bucal[24]	2016 Brazil	Cross-sectional n=70	To identify the behaviors and knowledge of dentists in primary health care regarding oral cancer, in Montes Claros - MG.	Most of the evaluated dental surgeons have satisfactory knowledge related to oral cancer. However, the knowledge demonstrated has not been put into practice in their work activities.
Comparison of Practices, Knowledge, Confidence, and Attitude toward Oral Cancer among Oral Health Professionals between Japan and Australia[25]	2016 Japan	Cross-sectional n=351	To investigate the practices, knowledge, confidence and attitude towards oral cancer among Japanese oral health professionals, comparing them with Australia.	Japanese dentists' knowledge of risk factors and confidence in oral cancer was less than Australian dentists. Therefore, continuing education and training programs must be provided.
Oral Cancer and Dentists: Knowledge, Attitudes and Practices in Chile[26]	2016 Chile	Cross-sectional n=205	Describe the knowledge, attitudes and practices regarding oral cancer of dentists in Las Condes, Santiago, Chile.	Deficiencies in knowledge, attitudes and practices were observed in relation to Oral cancer.
Knowledge of Oral Precancerous Lesions Considering Years Since Graduation Among Dentists in the Capital City of Iran: a Pathway to Early Oral Cancer Diagnosis and Referral?[27]	2018 Iran	Cross-sectional n=153	To evaluate the knowledge and perceptions of general dentists about oral precancerous lesions and risk factors for oral cancer in Tehran, Iran.	According to the results, it can be concluded that the knowledge of dentists in the diagnosis of precancerous lesions and mouth cancer is lacking in some aspects.
Early Detection of Oral Cancer- Dentists Knowledge and Practices in the United Arab Emirates[28]	2018 United Arab Emirates	Cross-sectional n=298	To evaluate dentists' knowledge, opinions and practices regarding the detection of oral cancer in the United Arab Emirates.	The findings of the present study identified several deficiencies in the knowledge of dentists working in the United Arab Emirates in relation to the early detection of Oral Cancer.
Oral Cancer Knowledge Assessment: Newly Graduated versus Senior Dental Clinicians[4]	2018 Brazil	Cross-sectional n=477	To evaluate the level of knowledge about oral cancer of dentists in the city of São Paulo, and to compare the level of knowledge obtained between recent graduates and graduates for over 30 years.	It can be concluded that, among those studied, recently graduated clinicians had a higher level of knowledge compared to dentists with more than 30 years of practical experience. However, when several factors related to the knowledge of risk and diagnostic factors were assessed individually, the results indicated high rates of incorrect responses.
Knowledge and Practice of Oral Cancer Screening in Teaching Faculty -Comparison of Specialty and Year of Clinical Experience[29]	2019 Japan	Cross-sectional n=110	To evaluate knowledge, practice, trust and perceived barriers to oral cancer screening among dental professors at Iwate Medical University, School of Dental Medicine. The results were compared by experts, as well as years of clinical experience.	The level of teacher confidence, knowledge, exam skills was low, especially among younger teachers. More than 80% of the junior faculty indicated a lack of knowledge. It is urgently needed and currently licensed professionals must take mandatory continuing education courses in cancer.
Oral Cancer Knowledge, Attitudes and Practices among Primary Oral Health Care Dentists in Kuwait[30]	2019 Kuwait	Cross-sectional n=289	Assess the level of oral activity knowledge, opinions, attitudes and practices about cancer among dentists in Kuwait's oral health centers.	Most participants had good knowledge about various aspects of oral cancer. But continuing education programs on risk factors and diagnosis of oral cancer must be organized to train dentists.

Note: n – number of participants.

possible alteration. The adoption of measures such as changes in the individual behavior, abandonment of the use of tobacco and alcoholic beverages are the main factors already known to prevent their occurrence. In this aspect, the dental surgeon has a fundamental role in this process, and must be trained for clinical diagnosis in several stages of the pathology, in addition to guiding the control of risk factors[9].

It is possible to diagnose cancer already during the pre-neoplastic phase, or even in incipient stages of pathology evolution, in which the chances of cure are close to 100% (leukoplakia, erythoplasia, carcinoma in situ and micro-invasive carcinoma). The detection of oral/oropharyngeal cancer should start from a detailed physical examination, which will be confirmed by histopathological report, thus there is a delay between clinical detection until the histopathological finding, and it is one factors generating an increase in the diagnosis in advanced stages[13].

DSs are professionals who needed to be prepared for the detection of cancerous lesions through a clinical examination, as well as assessing the possible related risk factors. In this context, the dentist will contribute for the diagnosis of oral cancer and, therefore, increase the chance of successful treatment[30]. In general, it is assumed that all DSs, regardless of their inclusion in the public network, should have solid knowledge about risk factors and early diagnosis of oral/oropharyngeal cancer, in addition to articulating their knowledge in daily practice.

Furthermore, the lack of knowledge about the issue in the clinical practice may be due deficient academic background, which reinforces the need for continuing education aiming to update the knowledge post egress the university, thus improving the quality of the service provided. The literature has shown that educational actions for oral health increase the level of knowledge of individuals as well as adherence to self-care practices in oral health, improving health conditions[20].

Of the 18 international studies included in this review, although not all are homogeneous, 13 of them[3,7-8,16,19-20,22-23,25-29] presented results that show low or limited knowledge about oral/oropharyngeal cancer. These deficiencies were pointed out in issues such as lack of knowledge of certain risk factors, gaps related to an efficient continuing education, as well as deficiencies in performing the examination for early detection of mouth/oropharynx cancer.

Only two of the six studies conducted with a sample of Brazilian dentists indicated a satisfactory level of knowledge for early diagnosis of cancerizable lesions in the mouth and oropharynx. One of them was performed in Campina Grande-PB[14]; and another, in Montes Claros-MG[24]. The rest of the work highlighted[4,9-10,18] that, in general, dentists with more time of service presented insufficient knowledge, suggesting a training for both preventive aspects and for inspection of suspicious lesions. The survey conducted with dentists in the state of Santa Catarina[10], for example, showed that almost half of the DSs reported not being able to perform the inspection examination.

It is expected that the DSs have adequate knowledge on the subject, be able to pass them on to their patients and, consequently, provide the prevention and early diagnosis of oral cancer. Although these professionals work daily with the oral cavity, it is still evident the need for continued education to encourage the performance of clinical exams in order to detect cancerizable lesions. Moreover, considering that the use of alcohol and tobacco is a risk factor for oral cancer, the identification of these habits may favor the adoption of preventive measures to the disease[24].

Study limitations

The study limitations refer to the sample size; although the search algorithm brought 79 articles in PubMed and 152 in LILACS, only 24 met the objective of the research. The works included in this integrative review presented different outlines and, therefore, several ways of evaluating and classifying the knowledge and behaviors of the CDs. Such studies have demonstrated a greater attention to oral health based on preventive issues, by professionals residing in several countries.

Contributions to the area of Nursing, Health or Public Policy

Oral cancer is a disease of great relevance, presenting high rates of morbidity and mortality, being a worldwide public health problem. However, the most important thing is that part of oral cancers can be avoided by eliminating the risk factors for its occurrence. In this sense, the present study contributes with the gathering of evidence about the level of knowledge of the DSs on the prevention and early detection of oral cancer.

CONCLUSIONS

Of the studies included in this integrative review, both international and national studies showed that a good number of dentists had limited knowledge about oral/oropharyngeal cancer, especially in the technical capacity for early detection. In addition, the need for constant ongoing education of dentists on the subject is reinforced in several findings.

This study aggregates a comparison made in several world scenarios, that is, it is not limited only to Brazil, reinforcing that this is a problem of global interest and that the particularities of each location - such as health systems, training of professionals and cultural issues of patients - can influence the quality of attention for the detection of oral/oropharyngeal cancer.

Although the risk factors for oral cancer are already well recognized and the dentist has an important and decisive role in early diagnosis, studies with more robust epidemiological designs, such as community trials, are needed to compare various health education interventions among dentists and assess how this may influence an increased diagnostic outcome for oral/oropharyngeal cancer.

Measures to reduce the delay in diagnosis should be taken with a focus on patient information, professional instruction and improvements in the health system. Because we understand that the knowledge of the DSs is very important in the chain of events that leads to late diagnosis, continued education should be offered and carried out aiming at an improvement of the knowledge about oral cancer and oropharynx.

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