

Epidemiology of primary oral cancer diagnostics in Kaunas

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SUMMARY

Introduction. Ability for general practitioners and dentists to successfully identify oral cancer (OC) and knowledge about it has a huge influence in further primary diagnosis and good specialized treatment and care. It is very important to realize what obstacles appear in medical care professionals (dentists and general medical practitioners(GPs)) way for primary oral cancer diagnostics.

Purpose. To find out the insight of primary oral cancer diagnostics in Kaunas city.

Goals: to analyse knowledge of society about oral cancer and its primary symptoms; to evaluate and compare the insight of POCD for general medical practitioners and dentists; to appraise the oncological awareness and evaluate the experience in oral oncology for mentioned medical care professionals.

Materials and methods. Questionnaires were prepared for patients and medical professionals. Permission for investigation was confirmed by LUHS Bioethical centre. Questioning was done in Kaunas city (Lithuania) and its districts.

Results. 100 questionnaires were collected from random people, questioned at health care centers and 106 questionnaires were given to medical staff (64 for dentists and 42 for general medical practitioners); 81% of GPs and 75% of dentists claims to have low insight on POCD; 83,3% of GPs and 46.9% of dentists claims that they have not enough learning experience on POCD from graduated university; Although, only 4,8% of GPs and 6,2% of dentists updated their knowledge on POCD after graduation.

Conclusions. Society agrees having a poor knowledge on POCD; GPs and dentists are not educated enough for POCD; GPs pay too little attention for oral cavity examinations and are in shortage collaborating with dentists about POCD.

Key words: Lithuania, oral cancer, diagnostics, prevention.

INTRODUCTION

Cancer is the second deadliest disease in the world, after heart diseases (1), oral cancer (OC) itself, shares 10th place in mortality-rate worldwide (2, 3). Although, OC is said to be the fifth form of all the cancers in frequency (around 4% of all the cancerous diseases is OC) (2), in some parts of the world (Asia) this type of malignancy is one of the most common (4). For men it is 2 times more common to suffer from oral cancer than women, and almost 95% of patients with OC appears to be 40-60 years old (5).

Main risk factors linked to OC: Tobacco, alcohol, UV exposure, radiation, diets, viruses, poor oral hygiene, genetic factors, medication, although, with recent epidemiology, different mouth parts can be associated with different factors, having the greatest influence, e.g.: tobacco, UV exposure has the highest influence cancer development to the lips (6) (7). Alcohol, tobacco, human papillomavirus has a tremendous impact to oral cavity and oropharyngeal structures in cancer development (8-10).

The annual estimated incidence is around 275,000 for oral and 130,300 for pharyngeal cancers excluding nasopharynx, two-thirds of these cases occurring in developing countries (11). At least 70% of all oral cancers could be prevented by the elimination of tobacco smoking and a reduction in alcohol consumption. The removal of these two risk factors also reduces the risk of second tumors in existing oral cancer patients. Smoking cessation

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contributes to reducing the risk of oral cancers, with 50% reduction in risk within 5 years (12) meaning that preventative strategies has a huge importance in reducing OC incidence. It seems that neither the symptoms of oral cancer nor the main risk factors are well understood for society. With rising incidence rates, public education is urgently needed (13), as well, as strengthening the awareness of POCD is needed for general medical practitioners (14).

MATERIALS AND METHODS

Permission for investigation was confirmed by LUHS (Lithuania university of health sciences) Bioethical centre. Statistically reliable samples were calculated using Lithuanian Ministry of Health Information Centre indexes (2016-2017). Questioning was done in Kaunas city and its districts: State and private health care clinics and polyclinics were chosen equally with randomisation. Questionnaires were prepared for society and medical professionals (18 questions for patients in the same healthcare centres, as medical professionals were examined and 61 question for medical professionals to evaluate knowledge, experience and oncological awareness).

Group A – 64 general dentists and 42 general medical practitioners who were picked randomly. 61 – question evaluation form were filled through direct interview. Three sections of questionnaire were divided into: 1) demographic information, 2) experience in POCD, 3) knowledge in POCD and oncological awareness.

Group B – 100 random respondents, representing society. 18 – question form were filled through direct interview. Questionnaire consisted of questions asking demographic information, experience in POCD and knowledge in oncological awareness, questions were simplified and, if needed, explained for respondents.

RESULTS

Group A

A total of 106 medical professionals were questioned (64 general dentists and 42 general medical practitioners (GPs)) and basic demographic results were summed up into Table 1. 42% (45) of all respondents were men, 58% (61) were women. Mean age of participants were 45 years for general dentists and 52 years for general medical professionals. A total of 51.9% (55) of specialists were questioned in private health care centres, and the rest: 48.1% (51) – in public centres. An average work experience for dentists were 17 years and for physicians – 21 years. Most of the licenses were acquired in Kaunas (LUHS university) by most of the sample 94.3% (100) and the rest in Vilnius: 5.7% (6).

Respondents (medical staff) were questioned about experience in regard of POCD, with conclusion into Table 2: Sum of 28.3% (30) respondents said that they had a patient(s) with OC attended during their practice. Question about suspicion or diagnosis of treated patient with OC were answered with “YES” by 21.7% (23) of all respondents. Only 17% (18) of questioned said that they are checking oral cavity of patients in concern of onco-diagnostics. 44.3% (47) of specialists claimed to know the characteristics of POCD. 61.3% (65) said that knowledge about POCD after university studies was low, and 77.3% (82) of respondents answered to have a lack of education in POCD. Epidemiology of oral cancer in working region was known only for 10.4% (11) of questioned specialists, and only 5.7% (6) are improving themselves with new information on POCD. 54.7% (58) clarified that they are cooperating in terms of POCD with other medical practitioners. 39.6% (42) claimed to have had currently treated or already treated patients with OC attended, during their practice. Most of the respondents 87.7% (93) had patient’s carcinophobia during visitations.

Almost half of the respondents 50.9% (54) wants to have an annual week of oral cancer prevention at their work place.

In response to knowledge in POCD and OC awareness, 78.1% of dentists and 83.3% of generalists answered to have only minimal theoretical familiarity with OC.

Table 1. Basic demographic information among the study groups

Information (mean numbers)	General dentist (n=64)	GP (n=42)
Gender	M – 46.9% (n=30)	M – 35.7% (n=15)
	W – 53.1% (n=34)	W – 64.3% (n=27)
Age	45 years	52 years
Practice	Private – 65.6% (n=42)	Private – 30.9% (n=13)
	Public service – 34.4% (n=22)	Public service – 69.1% (n=29)
Work experience	17 years	21 years
Degree acquired	In Kaunas – 93.75% (n=60)	In Kaunas – 95.2% (n=40)
	In Vilnius – 6.25% (n=4)	In Vilnius – 4.8% (n=2)

84.4% of dentists and 76.2% of GPs gives information to patients about negative influence of tobacco, correspondingly 67.2% and 83.3% presents negative effects of alcohol. In general, 85.7% of questioned medical staff, does not perform a purposeful examination of patients for POCD during primary appointment (Oral cavity, lymph nodes inspection). According to answers – 59.3% of dentists and 45.2% of GPs agrees with statement that POCD should be an individual procedure, done at primary appointments.

Only 23.4% of dentists and 16.7% of generalists chose five most common carcinogens influencing the appearance of OC correctly, correspondingly, only 46.9% and 69% of specialists could answer the most frequent type of oral cancer. Question what indicates the irritation of precancerous pattern was answered correctly only by 23.4% of dentists and 30.1% of GPs. Most common oral benign tumor to become malignant was answered correctly by 39% of dentists and 28.6% of physicians. Primary oral cancer symptoms were picked up appropriately by 53.1% of general dentists and 33.3% of GPs. Correct age groups and sex with most frequent OC appearances were answered correctly correspondingly by

70.3% and 89% of dentists along with 90.5% and 95.2% of general medical practitioners.

Group B

Group B represented 100 random respondents. Mean age of society representatives was 40 years, 57% (n=57) were women and 43% (n=43) were men. Table 3 presented knowledge of patients in POCD. As seen in summed answers, 64% of questioned could not answer most common oral cavity structure damaged in malignant processes, only 45% answered the correct most frequently diagnosed stage of oral cancer. 50% of people thinks that primary diagnosis of oral cancer will not influence the outcome of treatment. 67% of respondents could not answer the most common primary symptom of oral cancer. Only 29% named four main carcinogens linked to OC correctly and 70% thinks that genetic factor does not have any effects on oral cancer.

Awareness in POCD was evaluated in Table 4. Possibility to check oral health in preventative cancer reasons near home were answered by 55%, none of the respondents said to have their lymph nodes checked during primary appointments at dentist office, although 40% of patients answered

Table 2. Experience in POCD

Question	General dentist (n=64)		General dentist (n=64)	
	YES	NO	YES	NO
Were there any patients in your practice who showed up with OC?	15.6% (n=10)	84.4% (n=54)	47.6% (n=20)	52.4% (n=22)
Have you ever suspected or diagnosed patient with OC during your practice?	12.5% (n=8)	87.5% (n=56)	35.7% (n=15)	64.3% (n=27)
Do you usually check oral cavity of patients in onco-diagnostic concerns?	20.3% (n=13)	79.7% (n=51)	11.9% (n=5)	88.1% (n=37)
Do you know characteristics of POCD?	54.7% (n=35)	45.3% (n=29)	28.6% (n=12)	71.4% (n=30)
Were there enough knowledge about POCD after university studies?	53.1% (n=34)	46.9% (n=30)	21.4% (n=9)	78.6% (n=33)
Do you feel lack of knowledge in POCD?	75% (n=48)	25% (n=16)	81% (n=34)	19% (n=8)
Do you know the epidemiology of OC in your practice region?	9.4% (n=6)	90.6% (n=58)	11.9% (n=5)	88.1% (n=37)
Are you improving yourself with new insight on POCD at least once in a year?	6.2% (n=4)	93.8% (n=60)	4.8% (n=2)	95.2% (n=40)
Are you cooperating on POCD (general dentists with general medical practitioners and vice versa)?	62.5% (n=40)	37.5% (n=24)	42.8% (n=18)	57.2% (n=24)
Were there any patients in your practice who had been treated or were currently on treatment of OC?	18.8% (n=12)	91.2% (n=52)	71.4% (n=30)	28.6% (n=12)
Were there any patients with carciophobia during your practice?	82.8% (n=53)	17.2% (n=11)	95.2% (n=40)	4.8% (n=2)
Would you like to have an annual week of oral cancer prevention at your workplace?	54.7% (n=35)	45.3% (n=29)	45.2% (n=19)	54.8% (n=23)

that oral condition and lymph nodes are checked at physician during primary appointments. 40% would go to physician, only 17% would go to dentist, 21% would go to oral surgeon and 22% would go to otolaryngologist if some strange differences in mouth are seen by respondents.

DISCUSSION

It is proven that lots of factors are linked to oral cancer, although, main causes appear to be from unhealthy lifestyle. Unreasonable alcohol consumption boosts the risk of oral squamous cell carcinoma (which is the most common form of oral cancers) five times (15). Usage of tobacco enlarges the risk of oral cancer from 8.5 to 16.4 times (15), thus investigation shows that alcohol and tobacco works as synergists, boosting the risk of oral cancer significantly (7). Scully (2012) validated that 9 out of 10 patients with oral cancer were smokers (16). Rodriguez (2004) examined 137 oral cancer patients of whom 77% were smokers, 52% had unreasonable alcohol consumption and 52% of patients were low on vegetables and fruits and 85% of all the sample had a combination of all three factors (6).

It is crucial for medical professionals to be prepared to evaluate and give purposeful information for patients with signs of oral cancer. Although, lots of physicians and dentists does not have the right

knowledge and experience to rightfully examine the oral cavity in terms of oral cancer or give other persistent inspections, proper attention should be given atleast to highest risk sample (smokers, patients with alcohol abuse, and in 40-60 year old group) (10) (17). Nevertheless, almost half of the questioned GPs and dentists does not even want an oral cancer prevention week to be performed yearly, this opinion clearly describes that most of the specialists does not want to improve in POCD. New strategies for OC prevention offers to instruct young patients with no alcohol or tobacco abuse about the risks (18), because only 29% of Kaunas sample, representing society, knows main risk factors of oral cancer, this approach could benefit the avoidance of some risk factor exploitation.

Research characterizes that most of the group A and B respondents does not have the right knowledge in POCD. This means that both medical specialists and society should be informed more about POCD. Both students and specialists should be tutored more, with new information on oral cancer at institutions of health sciences. Constant training would definitely benefit doctors with less delayed oral cancer form patients.

CONCLUSIONS

Society agrees that there is not enough information in regard of oral cancer. Summed results confirms that representatives of society are not motivated in POCD. Both general physicians and dentists have lesser interest in improvement on primary oral cancer diagnostic knowledge. These results should be used to strenghten primary oral cancer diagnostics.

Table 3. Knowledge in POCD of respondents, representing society

Question	Correct answer in percentage
Most common oral structure possessed by malignancy?	36% (n=36)
Which stage of oral cancer is the most frequent to be diagnosed?	45% (n=45)
Will primary diagnosis of oral cancer improve the outcome of treatment?	50% (n=50)
What is the most common primary oral cancer symptom?	33% (n=33)
What are the four main carcinogens linked to oral cancer?	29% (n=29)
Does genetic factor influence the formation of oral cancer?	30% (n=30)

Table 4. Awareness in POCD of respondents representing society

Question	Answers
Is it possible for you to check oral cavity near your residency in preventative oral cancer reasons?	Yes= 55% (n=55); No= 45% (n=45);
Does your dentist check your lymph nodes for preventative oral cancer reasons, during primary appointments?	Yes= 0% (n=0); No=100% (n=100);
Does your physician check your oral condition and lymph nodes for preventative oral cancer reasons, during primary appointments?	Yes= 40% (n=40); No= 60% (n=100);
At what specialist will you apply to, if you notice some strange differences in your oral cavity?	Physician – 40% (n=40); Dentist – 17% (n=17); Oral surgeon – 21% (n=21); Otolaryngologist – 22% (n=22)

LIMITATIONS OF THE STUDY

Authors of this article are currently working on epidemiology of primary oral cancer diagnosis in sample of Lithuania.

STATEMENT OF CONFLICTS OF INTEREST

The authors state no conflict of interest.

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