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Research Article

Assessment of Knowledge and Practice toward Oral Cavity Cancer among Primary Health Care Physicians in Prince Sultan Military Medical City in Riyadh

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Abstract

Objectives: The aim of this research was to assess mean knowledge of PCPs on clinical features and risk factors related to oral cancer, and to determine the practice of PCPs toward oral examination and prevention of primary risk factors of OC. **Subjects and methods:** A cross-sectional questionnaire-based survey was distributed to 154 PCPs. The analysis was done using a data entry form through google forms and then it was transferred to SPSS software (version 24). Three scales included in the study (the Knowledge on risk factors scale, the Knowledge on diagnosis scale, and the practice towards oral lesion scale). **Results:** Of the total sample of 154 PCPs, 126 questionnaires were submitted for a response rate of (81.8%). mean age was 34.62 Years, (46%) were males while (54%) were females. The mean knowledge score on risk factors was 57 & the mean knowledge score on diagnostic items was 56. Only (34%) of participants had a consistently high score in an index of knowledge of risk factors, and (38%) In diagnostic items. A significant association was found between the scores of knowledge ($p<0.05$) and Medical degree & experience in medical practice. The practice ability score was significant ($p<0.05$) with age and a medical degree. Furthermore, (83%) agree that there is a need for additional education and (84%) of the respondents would be interested in learning more about OC. **Conclusion:** Proper Knowledge of OC risk variables & diagnostic items is a necessity for PCPs. The current study showed gaps in Knowledge & practice, our results conclude an overall improvement in education on OC is required.

Keywords: Oral cancer; Knowledge; Practice; Primary care physicians; Early detection

Introduction

Oral cancer is a global health problem due to its morbidity and Mortality. OC is a neoplasm in the oral cavity, starts from the lips and ends at the anterior pillars of the fauces [1]. According to the latest reports (2018) of the International Agency for Research on Cancer (IARC), the annual incidence was over 300,000 cases and the 5-year Prevalence (all ages) was 913,514 cases [2]. Around 90% of OC are squamous cell carcinoma (SCC), two to three times as prevalent in men as in women, and also the risk increases with age [3]. The prevalence of OC has some variations worldwide. In 2013, the incidence of OC was ranked 11th among all cancer sites [4]. The mortality rate of OC in males compared to females was higher worldwide. In India, the most prevalent type of cancer among men is oral cavity cancer [5], and second cancer among Pakistani females [6] Western Africa and East Asia find the lowest rates [7]. prevalence of OC in Saudi Arabia is 5.28 % of all cancer cases [8].the annual incidence for 2018 was over 350 cases and the 5-year prevalence (all ages) was 1, 097 cases[2]. Most of the cases of OC is diagnosed in late-stage (III or IV) at the time of diagnosis [9]. Prognosis of OC, five-year survival rates have been estimated at around 50% [10]. OC in developing countries is higher in incidence and mortality Compared to developed countries [7]. Incidence of OC Among young people, it is being increased worldwide. The risk factors of OC are based on multiple factors. Tobacco use in different forms (smoking, chewing) and alcohol consumption both are major risk factors, present in 90 percent of cases [11]. Genetic factors also have a role in oral SCC. Human papillomavirus has been linked to OC [12]. Sunlight exposure is

considered to be Lip cancer etiology [13]. The association of fruits and oral cancer was investigated showed a reduction in people with high intake [14]. OC has different presentations, based on its location and time of detection; it appears in most cases as a lesion of leukoplastic, erythroplastic or a necrotic ulcer with irregular borders and elevated induration margins [15]. The mouth floor, ventrolateral tongue, and soft palate are common sites of OC [16]. One of the challenges is that OC is not detected early to be treated successfully. The fact that OC is usually a visible lesion.

Early diagnosis and treatment of OC can improve mortality and morbidity [17]. Prevention and early detection actions have the opportunity not only to reduce the incidence but also to improve the survival rate. This responsibility was substantially shared by dentists and physicians. In general, SCC of the oral cavity are suitable for early detection due to easily accessible for a direct oral examination; also, the disease is linked with clearly identifiable risk factors. Screening for OC may be helpful if the malignant lesion can be identified earlier and treated successfully. Oral cancer screening is a clinical examination of the oral cavity includes a visual inspection of the neck, lips, labial, and buccal mucosa, the floor of the mouth, gingiva, tongue, and palate includes palpating the lymph nodes an abnormality that lasts for more than two weeks should be evaluated for biopsy [18,19]. Previous research has shown that delayed referrals to the specialist for intervention are due to insufficient general health practitioner's Knowledge in OC and recognition of the hallmark lesions [20]. Some of Primary Care Physicians (PCPs) and dentists misdiagnose OC with other lesions that show similar Clinical pictures [21]. However, there are barriers to early diagnosis Related to patient awareness and physician training. Several studies have been done to assess the Knowledge and Practice of PCPs and dentists about OC including Knowledge of clinical features, risk factors and practice related to oral lesions, Confirmed inadequate Knowledge including lack of awareness of risk Factors and clinical features [22-24]. The study was conducted in the UK reported that general medical practitioners fell less confident about diagnosing OC [25]. Many studies have shown the significance of evaluating the magnitude of understanding of OC diagnosis by physicians and highlighted the need for enhanced education [22,25]. Therefore, the purpose of this study was to assess mean Knowledge of PCPs on clinical features and risk factors related to oral cancer, and to determine the practice of PCPs toward oral examination and prevention of primary risk factors of OC.

Literature Review

I began looking for prior literature in January 2018 using MEDLINE, EBSCO, GOOGLE SCHOLAR databases. I used knowledge, practice, primary care physicians, oral cancer, and early detection as keywords in my research review, non-English studies were excluded. PCPs have an important role in early diagnosis of OC; they have experienced several patients with oral concerns and therefore should lead to early diagnosis and referral to the therapy expert. The prevention of OC is a crucial objective globally if this cannot be achieved; we should detect or diagnose OC in the early phases in order to successfully treat it. Prevention and early detection of this issue need public awareness and general practitioners better education to be able to identify OC. Professional diagnostic delay in oral cancer will usually rely on the physician's interpretation of the patient's risk factors and clinical symptoms, a diagnostic delay is assessed by the duration of days that have occurred since the person identifies the first sign and/or symptom until a final diagnosis is achieved [26]. Study was done to explore diagnostic delay in new patients with OC indicated that the professional delay was the most related variable to the tumor stage [27]. In addition, patients with upper aero digestive tract cancer with professional delays greater than One month was noticed to have an increased risk of becoming diagnosed with late-stage disease[28]. Early asymptomatic OC differs significantly from advanced cancers in their clinical pictures, and prognosis. Early detection and excision of pre-malignant lesions of OC may reduce malignant transformations [29]. Localized oral lesions less than 4 cm that have not spread to the regional lymph nodes can be treated effectively; as a result, five-years of survival rates exceed 80 percent [30]. Screening for OC might be useful, because of the easily detectable pre-cancerous lesions, early invasive cancers, and improved survival after treatment of early-stage cancers. The American Cancer Society recommends that adults aged 20 years or more who have health checks should have the oral cavity examination as part of a cancer-related checkup [31]. The American Dental Association recommends that health providers should be alert for signs of oral malignant lesions during the oral examination, especially who use tobacco or heavy alcohol consumption [32].

Many health care providers have studied the reasons for delaying the diagnosis and treatment of OC and they found that reasons could be divided into three components: patient, professional, and time of intervention [33]. Some reasons for the professional delay have been identified include previous health exposure, Lack of recognized etiological variables and inappropriate referral to specialized facilities [28]. Also, studies have indicated a lack of patients awareness as an important element in delaying oral cancer referral and therapy [34,35]. Several studies have been done to assess the knowledge and practice of PCPs and dentists about OC, including knowledge of clinical features, risk factors, and practice related to oral lesions. Previous research has assessed the expertise of dental practitioners and their behavior towards OC and whether or not dentists have the required abilities. Whereas, PCPs have a major effect in primary prevention, Most of these researches were using self-reported surveys.

Many studies were conducted to evaluate knowledge of risk Factors, among primary care physicians. the study was conducted in Turkey (2014), indicated that nearly all PCPs were recognized that tobacco use and alcohol consumption were risk factors for OC, In addition, Most participants (84%) knew that Leukoplakia and Erythroplakia was linked with pre-malignant OC [36]. Canto MT, et al. reported that all physicians who responded to the study realized that tobacco and a past personal OC lesion were risk factors for oral cancers, 40 percent properly reported that the majority of OC were detected among those 60 years and older,

the majority recognized alcohol use as a risk factor, half of them reported that lip cancer was associated with sun exposure and less than one-third acknowledged low fruits and vegetable intake were a risk factor for OC, almost 60 percent realized that most lesions of oral cancer were diagnosed in advanced phases [37].

Another study was performed in England found that general dental practitioners were generally more likely to identify alcohol as a risk factor compared to medical practitioners, alcohol was recognized as a risk factor only in 45 percent of general practitioners, This was a significant difference from dentists [38]. McCready Z, et al. evaluated the approach of osteopathic medical students regarding OC, nearly 95 percent chose the right response (tobacco) when asked which is the most significant risk the factor for OC, almost 27 percent of participants were able to properly define the tongue as the most prevalent site for oral cancer, as regards the clinical side, 46 percent of students recognized non-healing ulcers as the most prevalent manifestation of oral cancer, the vast majority of students recognized squamous cell carcinoma as the most prevalent histology in oral cancer, the study limitations were low response rate and the questionnaire was not validated [39]. Whereas, Gbotolorun O, et al. found the floor of mouth and the tongue was recognized by 80 percent of participants as OC most prevalent locations, the majority of participants responded correctly to the smoked tobacco, increasing age, were risk factors for oral cancer, 70 percent of participants acknowledged Leukoplakia as a precursor to OC [24].

Furthermore, all respondents listed tobacco as a major risk factor for OC in Jordan study, however, half of the respondents recognized alcohol, chewing pattern and human papillomavirus as risk agents, 60 percent were able to identify a previous history of SCC as a risk factor. Fewer participants identified poor nutrition (25%), immunosuppression (30%), exposure to sunlight (20%), elderly age (35%) as risk triggers of OC, concerning knowledge of the types of oral lesions/conditions that may lead to cancer, (66%) of respondents knew Leukoplakia as a pre-cancerous lesion, Erythroplakia was known by 44 % of respondents [22]. A study has been done in Saudi Arabia 2012; they found that Human papillomavirus accurately responded, by almost 39 percent, Low fruit/vegetable intake responded correctly by19 percent. Previous lesions of OC were only noted by 53 percent, 91 percent identified obesity for non-risk factors, 87 percent of participants recognized hot beverages as known-risk factors and 73 percent considered spicy foods as non-risk factors, Reasons for insufficient evaluation, 47 percent of responding claimed that reason was insufficient time, 35 percent believed that too many patients did not allow them to take a proper medical history [23]. Many studies have been conducted to review the practice and prevention of the main risk a factor of OC among PCPs. Tanriover O, et al. found around half of the participants presumed that family physicians were not skilled to perform OC examination, most of them thought that they did not receive appropriate smoking Cessation training and alcohol cessation practice [36]. As in the Presence of Canto MT, et al., reported less than 5% of doctors performed an oral cancer examination to people 40 years of age and older, In relation, one-third of physicians who did not examine patients 40 years of age or older revealed that the main cause was Lack of training [37]. Greenwood M, et al. found, most participants claimed that they regularly screened oral mucosa for cancerous and pre-cancerous lesions, for referral processes, also both groups of doctors in most instances referred to oral and maxillofacial surgery [38].

McCready Z, et al. figured, half of the respondents will refer patients to an otolaryngologist when they encounter patients with oral lesions [39]. Gbotolorun O, et al. study reported that 25 percent of PCPs ask about smoked tobacco use, also disclosed that basic oral examination was performed only by 35 percent, the Physicians in the research stated that their absence of oral examination training resulted in their behavior [24]. Jordan study Discovered, only 17% of respondents indicated that they regularly conducted oral cancer screening, whereas 62% of respondents reported asking patients about smoking habits, less than half of the participants regularly offered patients with counsel on smoking cessation and alcohol counseling [22].

Several studies were done to evaluate the practice of family physicians in smoking cessation counseling. Alomari M, et al. tend to find, only 39 percent indicated assessing patients desire to stop smoking, almost 28 percent revealed talking to smokers about counseling options [40]. Another study found that most general medical physicians did not ask about smoking only if the patient had tobacco-related symptoms [41].

With regard to barriers to smoking cessation counseling. Eldein H, et al. recognized boundaries linked to physicians and health care providers including lack of training, unavailability of time and inaccessibility of nicotine replacement treatment, whereas the four barriers linked to patients were lack of patient motivation, culture stresses, relapse and withdrawal symptoms, and the inability of follow-up, The current research showed insufficient knowledge and practice versus the positive attitude of family physicians with regard to smoking cessation counseling [42].

A series of research showed insufficient knowledge, including a lack of awareness of risk factors and clinical features. Study in Maryland Academy of Family Physicians found, gaps in knowledge and practices among participants. Only 8 percent of participants had a High knowledge of OC on both indicators [37]. Greenwood M, et al. reported that dentists were more able to detect multiple presentations of OC and pre-malignant lesions than medical physicians [38]. McCready Z, et al. estimated that nearly eighty percent of learners felt undereducated about OC [39]. Hassona Y, et al. found an insufficient degree of knowledge among health care practitioners [22]. A study has been done in Saudi Arabia revealed that relative data indicates that professionals do not have adequate knowledge of the OC risk factors or its detection and prevention [23].

For consideration of professional background and OC knowledge. The study was conducted in England (2001) found dentists were more able to detect multiple presentations of oral cancer and pre-Malignant lesions than physicians [38]. Gbotolorun O, et al., stated that no significant association of background

characteristics (i.e., gender, years of training, additional qualification) with a high score of knowledge [24]. It is the same as in Hassona Y, et al. [22]. Canto MT, et al. showed that those who are new graduated have fewer knowledge scores than those who are old graduated [37].

Regarding the opinions of primary health care physicians on their education in OC. McCready Z, et al. estimated nearly 90% of participants reported that they would be interested in obtaining continuing education classes on OC topic [39]. It is the same as in Tanriover O, et al. [36] and Jaber L, et al. [23]. Study in Maryland Academy of Family Physicians found, more than 75 percent of family physicians agreed that they were properly trained to provide counsel on tobacco and alcohol cessation, more than 60 percent of respondents were willing to continue education about oral cancer [37]. Greenwood M, et al. suggested combined workshops with physicians and dentists could be useful in the future, optimizing resources and enabling shared self- improvement among practitioner members [38]. Hassona Y, et al. (2015) suggested the use of case-based strategy including medical pictures and videos, as these techniques may be more efficient in enhancing practical abilities such as identification and screening of OC [22].

Subjects and methods

A cross-sectional questionnaire-based survey was distributed to 154 PCPs. questionnaire was adopted from (LeHew C.et al, 2007), with modifications applied [43]. The questionnaire validation process has been performed by given to three experts, to assess the content and face validity, and then it was tested for reliability by a test re-test stability. The final structured questionnaire consisted of five sections: demographics characteristics, items on knowledge of risk factors for oral cavity cancer, 10 of them were risk factors, and 3 were non-risk Factors. Eleven items on knowledge of diagnostic items & prognosis of oral cancer. The section related to Practice towered Oral lesion, five items discussing opinions of PCPs about their education in OC. Furthermore, a pilot survey was conducted among 40 participants to evaluate the reliability of the questionnaire.

Sample

The sample size is calculated using OpenEpi software, which uses the formula n = [DEFF*Np(1-p)]/ [(d2/Z21-α/2*(N-1)+p*(1-p)]. The total population size was 220. Therefore, the sample size was 154. The sample was gathered by simple random sampling using the electronic random number generator, in order to choose 154 participants of the numbered 220 list that includes all doctors inclusion criteria were all primary health care physicians work in PSMMC in Riyadh including (family medicine residents, specialists, consultants, general practitioners in primary care). Exclusion criteria are including non-primary care physicians.

Ethical considerations

The ethical committee of the military service department at the Ministry of defense and research ethics committee of the research center in Prince Sultan Military Medical City (PSMMC) reviewed and approved the study. Confidentiality has been maintained throughout the study.

Data analysis

The data collected from study participants were entered using a data entry form through google forms, then it was coded in the linked excel File and transferred to SPSS software (version 24). The study scales were developed to calculate the percent of correct answers for each of the three scales included in the study (the knowledge on risk factors scale, the knowledge on diagnosis scale, and the Practice towards Oral lesion scale). These scales were tested for internal consistency using Cronbach alpha to confirm the results of the test-retest survey.

The study reported a univariate analysis of the background characteristics, as well as the items included in each scale to assess knowledge and Practice in oral cavity cancer. The evaluation of participants' knowledge and Practice was graded in three categories, where those who achieved less than 33% of the total score were graded as low, 33-66% were graded as intermediate and more than 66% were graded as high. In addition, univariate analysis was performed to describe participants' opinions on their education on oral cavity cancer. Bivariate analysis was used to identify possible confounders in the general characteristics of study participants. The mean values for Practice and knowledge scales were reported, as well as the standard deviation to compare the dispersion in the study data. The results included the analysis of variance (ANOVA) test to evaluate statistical significance between scales mean values and background characteristics.

Results

Of the original sample of 154 PCPs, 126 questionnaires were returned for a response rate of (81.8%). The General Characteristics of the responding PCPs are presented in Table 1. The mean age was 34.62 years, (46%) were males while (54%) were females. The majority (44%) of the participants had only an MBBS degree, while 38% are Board Certified in family medicine, only (6%) had a Master degree. Most (44%) of the participants had Experienced in Medical Practice for <5 years.

Variable		Frequency	Percent
Age	21-25 years	5	4%
	26-30 years	52	41%
	31-35 years	20	16%
	36-40 years	22	18%
	41-45 years	16	13%
	46-50 years	5	4%
	51-55 years	3	2%
	56-60 years	2	2%
	61-65 years	1	1%
Gender	Male	58	46%
	Female	68	54%
Degree	MBBS	55	44%
	Diploma	12	10%
	Master	8	6%
	Board Certified	48	38%
	Family Medicine Fellowship	3	2%
Experience in Medical Practice	1-5 years	56	44%
	6-10 years	27	21%
	>10 years	43	34%
Nationality	Saudi	83	66%
	Non-Saudi	43	34%

Table 1: General characteristics of study participants (n=126 participants).

Knowledge of risk factors and diagnostic items for oral cavity cancer. The percentages of respondents who replied correctly to each the question in the knowledge of risk factors is shown in Figure 1. Most participants answered correctly that the use of tobacco (97%), Qat chewing (83%) and alcohol consumption (78%) were risk factors of OC. (72%) Correctly indicated that the majority of OC are diagnosed in Advance age. Nearly half of the participants correctly identified Male gender as a risk factor. A family history of SCC and Human papillomavirus was recognized by (76%) and (56%) of respondents respectively. However, Low consumption of fruits and vegetables were only recognized by (40%), only one-third correctly identified exposure to sunlight as the risk of lip cancer. for non-risk factors, Obesity recognized by(32%). In addition, Aphthous ulcer and Consuming of spicy and hot foods were recognized by (36%) and (37%) of respondents respectively as non-risk factors.

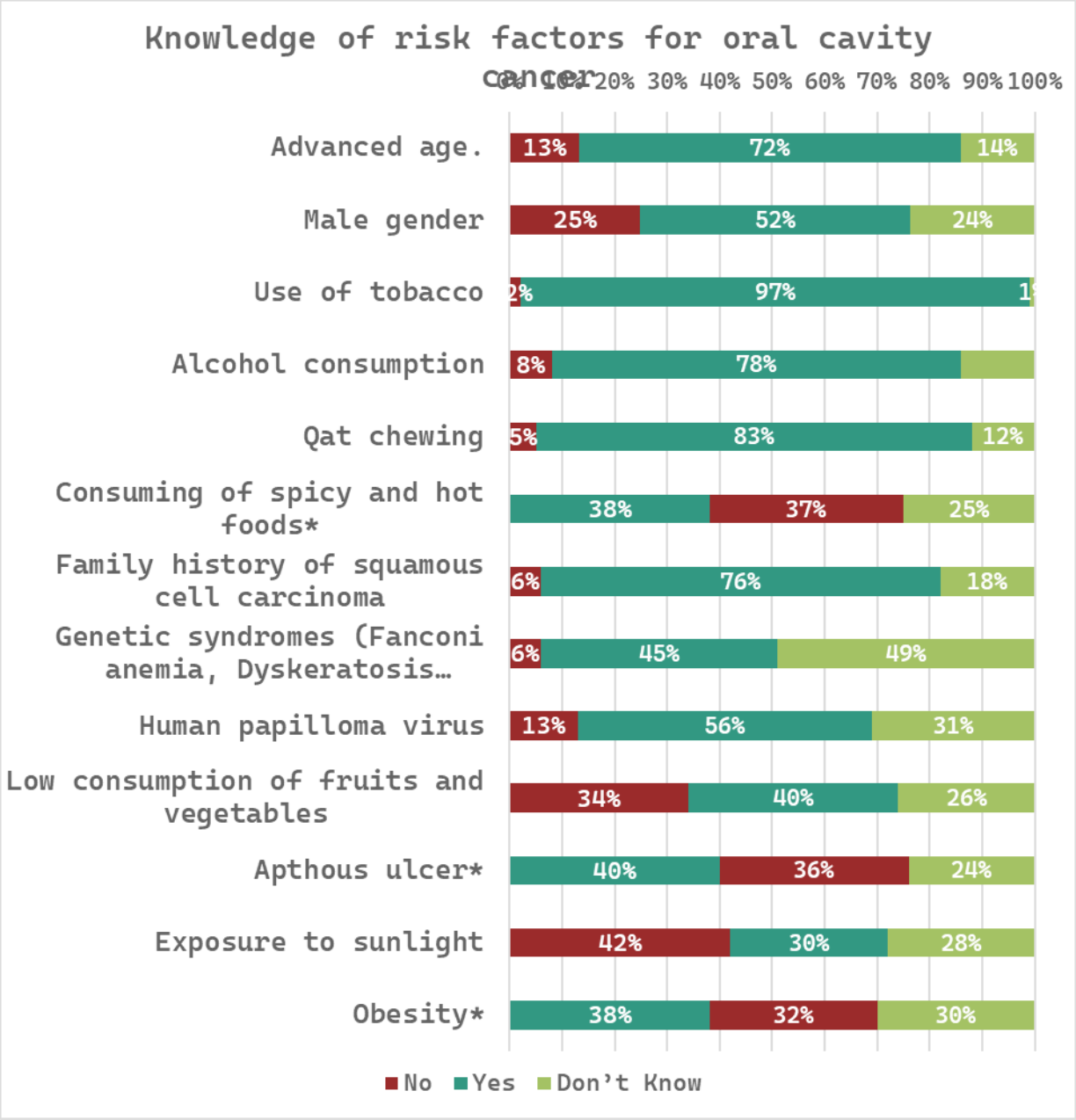

Figure 1: Participants knowledge on risk factors of oral cavity cancer (n=126 participants).

Figure 2 shows the percentages of respondents who responded correctly to each question in the Knowledge of diagnostic items & prognosis of OC. More than 80% of respondents knew that early diagnosis of oral cancer could improve the 5-year survival rate almost two-third recognized the non-healing oral ulcer is the most strongly implicated premalignant condition of the Oral cavity. Those most common type of oral cancer is SCC that was answered correctly by (59%). When asked regarding possible OC clinical presentations (75%) of respondents identified correctly that early OC lesions usually appear as small, Painless lesions. Further, (60%) identified leukoplakia (white lesion) could be considered precursors to oral cancer. Whereas, only (37%) knew that erythroplakia is the most strongly implicated premalignant condition of the oral cavity. Roughly (60%) of respondents defined, a non-healing oral ulcer for more than two weeks is suspicious for OC. The tongue and the mouth floor are the most frequent locations for OC were answered correctly by (33%). When asked regarding the referral pattern (46%) of participants would refer the patient to the inappropriate specialty. The

mean Knowledge score on risk factors was 57 (intermediate Knowledge) & the mean Knowledge score on diagnostic items was 56 (intermediate Knowledge) (Table 2).

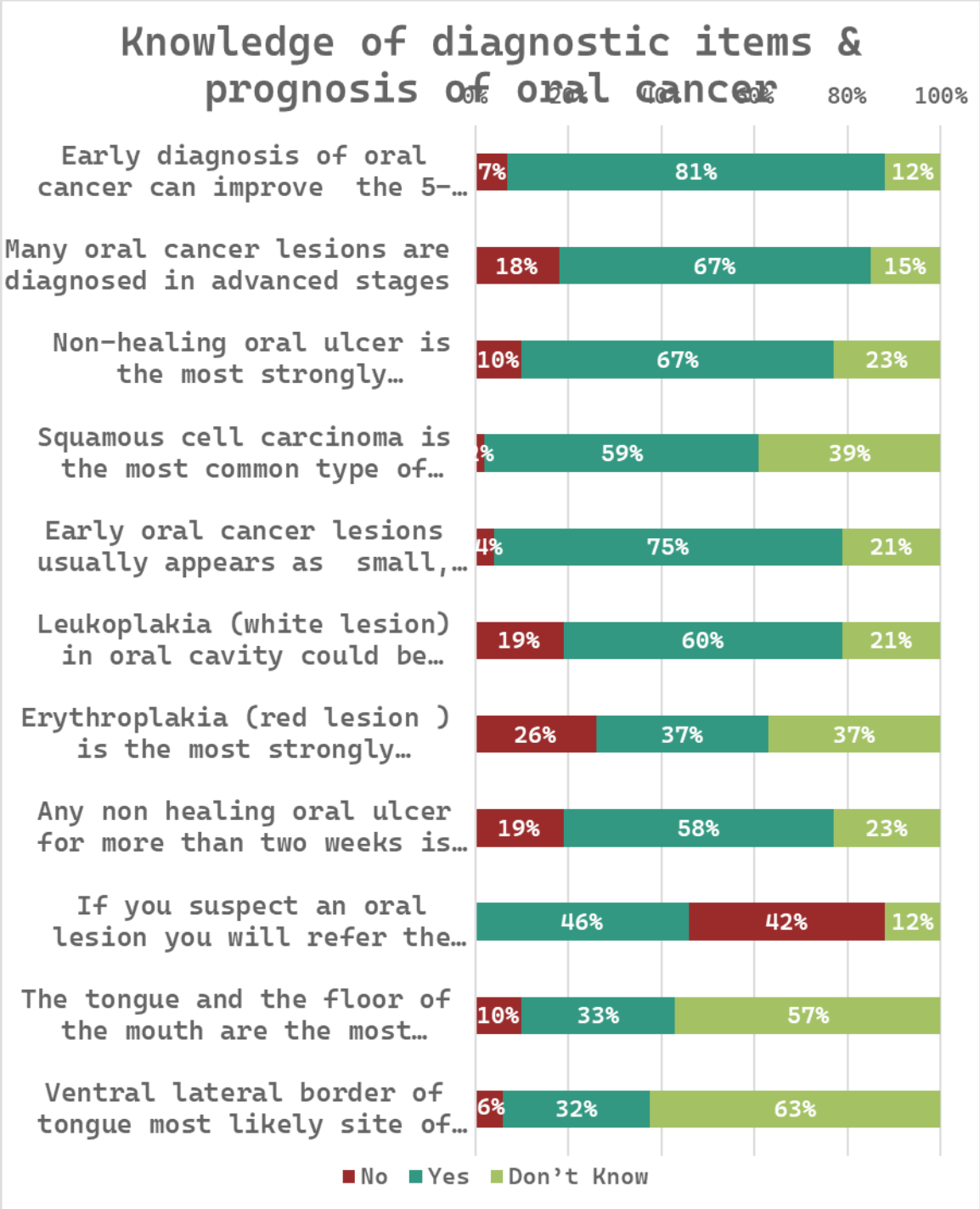

Figure 2: Participants knowledge on diagnostic items and prognosis of oral cancer (n = 126 participants).

Practice of Primary health care physicians towered Oral lesions

With regard to the examination of the oral mucosa of patients with risk factors for OC only (5%) of participants reported that they always performed examination. In addition, (18%) claimed that they always palpate lymph nodes of the head and neck in a patient with an oral ulcer. When we asked about their action when they encounter a patient with unhealed oral ulcer more than two weeks only one-third of participants would always refer for biopsy. While (57%) of the respondents reported that they always ask patients with risk factors for OC about the smoking status. Regarding smoking cessation counseling with patients who have risk factors of OC only (32%) Would provide 100% of the time for each patient (Figure 3). The mean score of Practice was 57 (intermediate Practice) (Table 2).

Scale	Mean	Median	Standard Deviation	Minimum	Maximum	Interpretation
Knowledge on risk factors	57%	54%	19%	15%	100%	Intermediate Knowledge
Knowledge on diagnosis	56%	64%	27%	0%	100%	Intermediate Knowledge
Practice toward oral lesion	57%	58%	25%	0%	100%	Intermediate Practice

Table 2: Descriptive statistics of scales included in the study (n=126).

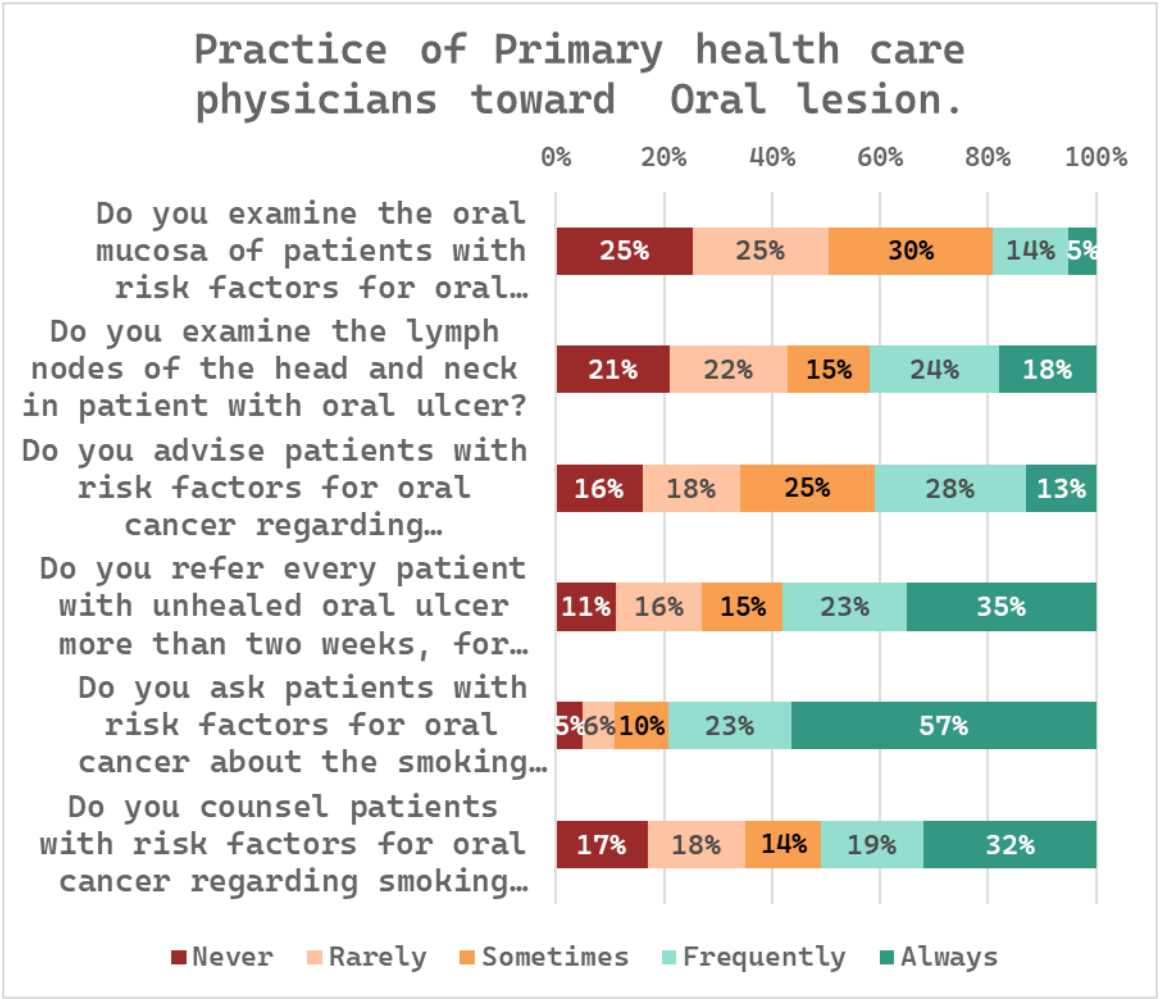

Figure 3: Participants practice toward oral lesions (n=126 participants).

We asked physicians about their education in OC only (12%) felt that they are adequately educated in lesions of OC. Furthermore, (83%) agree that there is a need for additional education and (84%) Of the respondents would be interested in learning more about OC through educational activities (Figure 4).

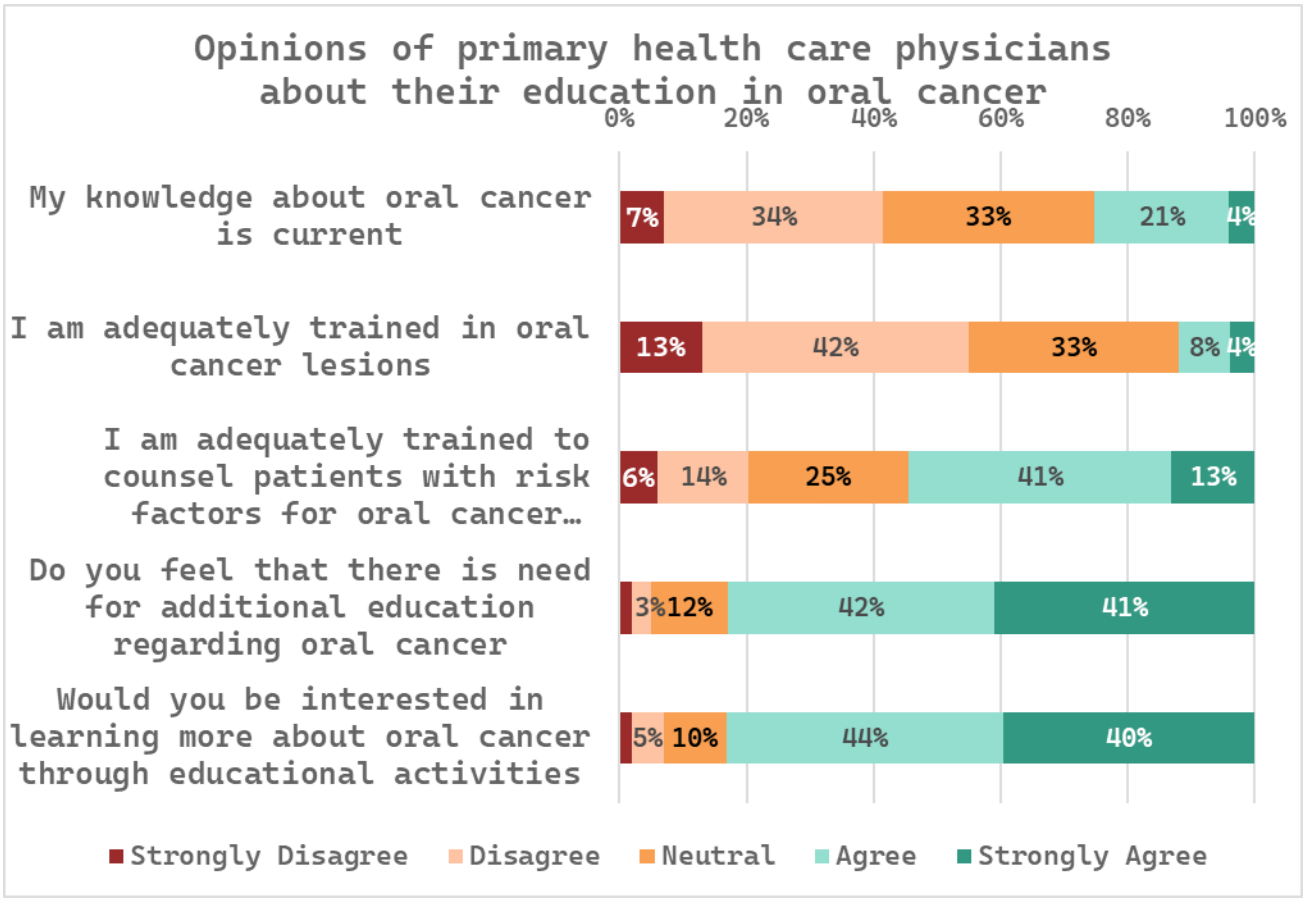

Figure 4: Participants opinions about their education on oral cancer (n=126 participants).

Patterns of knowledge and practice toward of oral cancer

Only (34%) of participants had a consistently high score in an index of knowledge of risk factors, and (38%) in diagnostic items, in addition, (13%) scored low on risk factors knowledge and (21%) Scored low on knowledge of diagnostic items practice scores were calculated for each participant, (40%) scored high whereas, (14%) Ranked low (Figure 5).

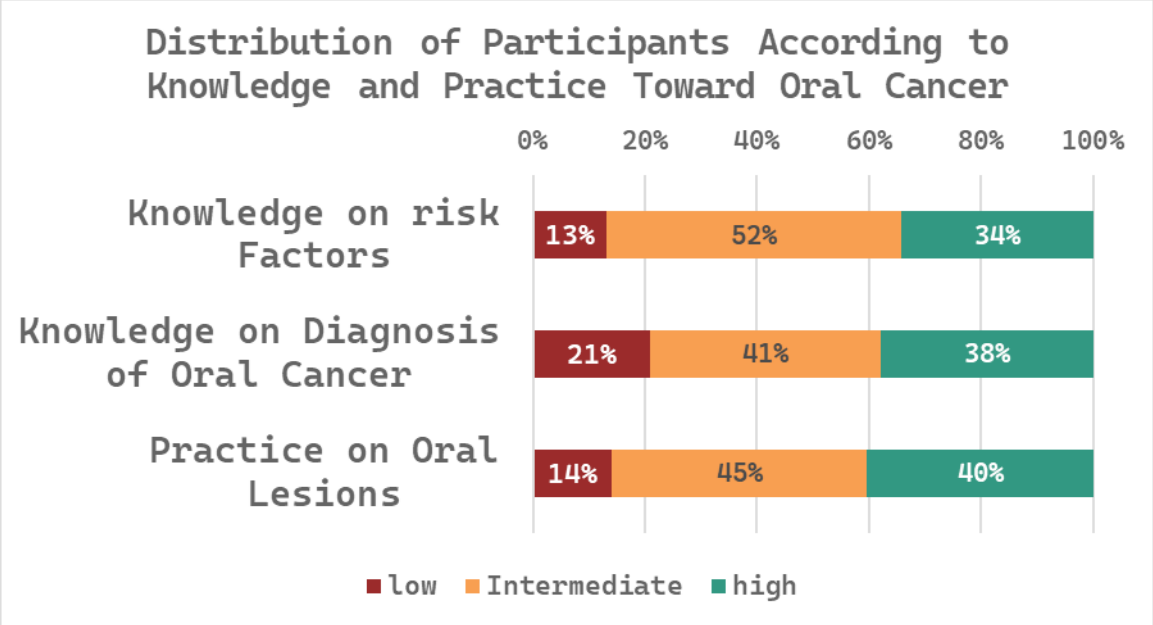

Figure 5: Distribution of Participants according to Knowledge and Practice toward Oral Cancer (low indicate <33%, intermediate 33-66%, and high >66% of the total score).

Comparing knowledge of diagnostic items scores by demographic characteristics

Medical degree and experience in medical practice were significantly higher knowledge scores ($p<0.05$). There was no statistically relevant relationship between knowledge scores and age (Table 3).

Variable		Frequency	Knowledge on diagnosis of oral lesion Score		P-value
			Mean	Standard Deviation	(with knowledge towards oral lesions)[a]
Age	21-25 years	5	40%	5%	0.119
	26-30 years	52	51%	24%	
	31-35 years	20	61%	26%	
	36-40 years	22	53%	33%	
	41-45 years	16	63%	28%	
	46-50 years	5	56%	34%	
	51-55 years	3	82%	18%	
	56-60 years	2	82%	13%	
	61-65 years	1	100%	-	
Degree	MBBS	55	48%	25%	0.012*
	Diploma	12	61%	31%	
	Master	8	42%	38%	
	Board Certified	48	65%	24%	
	Family Medicine Fellowship	3	67%	28%	

Experience in Medical Practice	1-5 years	56	49%	24%	0.040*
	6-10 years	27	60%	28%	
	>10 years	43	62%	29%	
[a]The p-value was calculated using analysis of variance (ANOVA) test.					

Table 3: Comparing knowledge on diagnosis items scores by demographic characteristics (n=126 participants).

Comparing practice scores by demographic characteristics

Age and medical degree were significant ($p<0.05$) between participants. Whereas, experience in medical practice was not significant (Table 4).

Variable		Frequency	Practice towards oral lesion Score		P-value
			Mean	Standard Deviation	(with practice towards oral lesions)[a]
Age	21-25 years	5	65%	30%	0. 034*
	26-30 years	52	52%	23%	
	31-35 years	20	65%	18%	
	36-40 years	22	52%	29%	
	41-45 years	16	51%	20%	
	46-50 years	5	66%	27%	
	51-55 years	3	85%	10%	
	56-60 years	2	81%	15%	
	61-65 years	1	96%	-	
Degree	MBBS	55	50%	24%	0.037*
	Diploma	12	55%	29%	
	Master	8	53%	27%	
	Board Certified	48	63%	22%	
	Family Medicine Fellowship	3	81%	17%	
Experience in Medical Practice	1-5 years	56	51%	23%	0.103
	6-10 years	27	59%	23%	
	>10 years	43	62%	26%	
[a]The p-value was calculated using analysis of variance (ANOVA) test.					

Table 4: Comparing practice scores by demographic characteristics (n=126 participants).

Discussion

Despite progress in cancer diagnosis and therapy, oral cancer continues associated with a poor survival rate, which reflects a continuing challenge [3]. Adequate knowledge about OC is a necessity for PCPS caring for patients, to limit the relatively elevated mortality and morbidity associated with oral cancer; its early detection needs to be improved. OC prevention is a crucial global objective if this cannot be attained; we should detect or diagnose OC in the early stages in order to treat it effectively. In the present study, we wanted to assess the mean knowledge of PCPs on clinical features and risk factors related to oral cancer, and to determine the practice of PCPs toward oral examination and prevention of primary risk factors of OC.

Even though our sample size was comparatively small, we had a sufficient rate of return (81.8%). The findings of the present research indicated that most respondents were able to define tobacco as a significant risk factor for OC. Studies showed similar outcomes, suggesting that tobacco is an a-known risk factor for OC among PCPs [36, 38, 24]. Similar to other studies, the relation between alcohol consumption and oral cancer was well recognized [36,37]. Human papillomavirus has been linked to OC, only half of the participants replied correctly, similar to that reported findings in other studies [39, 22]. Furthermore, the majority of respondents were unaware of the exposure to sunlight as a risk of lip cancer as seen in Jaber L, et al. [23]. In addition, few replied correctly who acknowledged Low consumption of fruits and vegetables as risk factors were listed in previous studies [22, 3]. The ability to recognize non-risk factors of OC, including Obesity, Aphthous ulcers, and consuming of spicy and hot foods were low among participants. In fact, the mean Knowledge score on risk factors was 57%. These findings indicate that there is a limitation in PCPs knowledge of risk factors, a variable that may decrease their ability to recognize patients at risk and make an appropriate intervention.

Although a majority of the respondents identified correctly that early, OC lesions usually appear as small, Painless lesions. Only a few (37%) knew that erythroplakia is the most strongly implicated premalignant condition of the oral. On the other hand, (60%) identified leukoplakia (white lesion) as precursors to OC; this finding is consistent with other studies [36, 24]. Regarding the referral pattern, In contrast to previous researches [38, 22]. Around half of the participants would refer the patient with suspect OC to the inappropriate specialty. Generally, in the evaluation of PCPs on the assessment of risk factors and clinical characteristics of OC, Only (34%) of participants had a consistently high score in an index of knowledge of risk factors, and (38%) In diagnostic items these outcomes in a similar flow to Gbotolorun O et al. (2015) study. The present research questioned PCPs regards the examination of the oral mucosa of patients with risk factors for OC; we found only a few of the participants revealed that they always performed the examination. Findings are in parallel with previous studies [37, 22], which reflects the barriers linked to a physician's practice. Even though smoking is known as a risk factor for OC, we found only one-third of PCPs counsel their patients with risk factors for OC regarding smoking cessation. These variations in knowledge and practices of oral cancer reflect their corresponding training. In this study, more than (80%) of PCPs agreed or highly agreed that there is a need for additional education and would be interested in learning more about OC.

In contrast to other studies stated that no significant association of background characteristics (i.e., years of training, additional qualification) with a high score of knowledge. The present research revealed significant differences in medical degree and experience in medical practice were considerably greater knowledge scores ($p<0.05$). Findings are in parallel with the Maryland study clearly showed those who are new graduates have fewer knowledge scores than those who are old graduates [37]. The current research has several limitations; the findings may not fully represent the knowledge and practices of all PCPs. Therefore, further large-scale studies are needed. There are no clinical images in the questionnaire that reflects knowledge of PCPs fully. Moreover, Validation of clinical images by an expert is required.

Conclusion

Proper knowledge of OC risk variables & diagnostic items is a necessity for PCPs. The current research indicated insufficient knowledge of oral cancer among PCPs. Our study demonstrates that PCPs are not as knowledgeable as should be about OC. Although OC is relatively uncommon in Saudi Arabia. Insufficient understanding may have negative implications for the people affected strength on public awareness of OC and risk factors, as well as proper training in dental and medical schools on early Identification and prevention of oral cancer are required combined workshops with physicians could be useful in the future, optimizing resources and enabling shared self-improvement among practitioners members.

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