Research Article

Knowledge, Opinions and Practices about Oral Cancer among Medical Practitioners of Eastern Nepal

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ABSTRACT

Introduction: Oral cancer, if detected and treated early can result in decreased mortality, prolonged life and improved quality of life of a person. The medical practitioners being the first personnel to come in contact with patients, their knowledge about oral cancer becomes of utmost importance.

Objective: For assessing the knowledge, opinions and practices about oral cancer among medical practitioners of eastern Nepal.

Materials and Method: A 35 itemed self-administered questionnaires were filled for a cross-sectional study by each participating medical practitioner. Analysis was done using SPSS version 11.5. Results were summarised using frequency distribution tables and graphical methods.

Result: One hundred and ninety six medical practitioners participated in the study, male (74%) and female (26%), aged 20 to 59 years. Squamous cell carcinoma (83.2%) was found to be the most common form of oral cancer, primarily in tongue excluding lip (37.8%), majorly diagnosed in patient aged >40 years (43.9%). Most participants answered correctly about the real risk factor, with use of tobacco (96.4%) and 67.9% were misinformed about obesity as real risk factor. About 65% medical practitioners had average knowledge on oral cancer. In grading of practice regarding history taking 70.9% scored high and 7.1% were graded as low. About 76.6% were interested in attending educational course on oral cancer.

Conclusion: The medical practitioners of eastern Nepal have average knowledge about oral cancer. High percentage of medical practitioners practices comprehensive history taking but practice setting showed significant relationships.

Keywords: Knowledge; medical practitioners; opinion; oral cancer; practices.

INTRODUCTION

Oropharyngeal cancer is the eleventh most common cancer worldwide with higher incidence and mortality rates in men. About 90% of oral cancers are due to smokeless tobacco and excessive alcohol consumption.[1] Among new cases of cancer worldwide, 2-10% are oral cancer and 85-90% of these cancers is squamous cell carcinoma.[2,3] Each year over 95,000 oral cancer cases are recorded in the South East Asia.[4] According to seven major hospitals, oral cavity cancer is the second common cancer in men after lung cancer.[5] Out of 6900 male, mouth and oropharynx cancer causes death in 12.9% .[6]

Despite all the recent advances there seems no significant change in mortality within past 50 years and approximately 50% of patient diagnosed with oral cancer die compared to other major cancer.[2,3] One of the attributing factors for low survival rate is late diagnosis, due to long-standing premalignant lesions.[7] Prevention and early detection efforts are vital for the survival of oral cancer patients.[8]

The objective of the study was to assess the knowledge, opinions and practices about oral cancer among medical practitioners of eastern Nepal as medical practitioners are the first ones to come in contact with the majority of patients.

MATERIALS AND METHOD

This study was conducted among General Medical Practitioners in eastern Nepal. The registered medical practitioner in B.P. Koirala Institute of Health Sciences, Dharan, Nepal and medical practitioner in zonal and district hospital of eastern Nepal were included. All medical practitioners not consenting to participate in the study and those who did not have medical license were excluded for the study. Approval was obtained from Departmental research unit of College of Dental Surgery, BPKIHS before the start of the project. The data was entered from the beginning itself and regularly updated under supervision of subject experts of Department of Public Health Dentistry.

Self-administered questionnaires were filled by each of the subjects in their respective hospitals. The identity of the General Medical Practitioners remained undisclosed both during and at the end of the study. An informed consent was taken from the participants before enrolling in the study. They had the right to refuse to take part in the study. The questionnaire was a 35-itemed questionnaire with seven sections on;

Part A: about the practice where participants work,

Part B: Signs, Symptoms and Risk Factors of oral cancer,

Part C: about the health histories participant takes,

Part D: about participant's opinions about oral cancer examination,

Part E: adjunctive procedures in oral cancer screening,

Part F: dental education of participants,

Part G: personal information about participants.

The knowledge of risk factors of oral cancer (OC) was assessed using 12 questions. There were 10 questions about real risk (older age, use of alcohol, use of tobacco products, family history of cancer, low consumption of fruits and vegetables, prior oral cancer lesion, poor fitting dentures, poor oral hygiene, use of spicy food and human papilloma virus) and two questions about non real risk (hot beverages and foods and obesity). Each correct question received a score of one point. The summed score which ranged from 0- 12 created an index for knowledge of risk factors. Medical practitioners then were classified into three categories, based on distribution of scores. Those with scores ≤6 were labeled as low grade for knowledge of risk factors; 7-9, an average and from 10 or higher as high grade.

A similar scoring technique was used to create an index for the section on health histories that participants take. Ten questions were asked regarding the health histories taken by the practitioners (which included patient's past alcohol use, patient's present alcohol use, type and amount of alcohol use, patient's previous tobacco use, patient present tobacco use, type and amount of tobacco, patient history of cancer, patient history of HPV, HPV vaccine recipient , family history of cancer). Each correct answer received a score of one and was summed to create an index of practice regarding the health histories taken by the medical practitioners which ranged from 0-10. Those who took relevant histories of with scores ≤5 were labeled as low grade; 6-7 as average grade; and from 8 or higher a high grade.

In the section of sign, symptoms and risk factors related to oral cancer, there were 24 questions (12 questions related to general knowledge about oral cancer and 12 related to risk factor of oral cancer). The General medical practitioners were graded on the frequency at which they performed each question .The medical practitioner were categorised based on the score received, the category was low (≤12 correct answers), average (13-18 correct answers), high (≥ 19 correct answers).

The three questions about the provision of oral cancer examination were 1) providing an oral cancer examination at initial visit, 2) providing an oral cancer examination at recall visit, 3) palpation of lymph node in the neck. These questions assessed whether or not these procedures were provided for the patients.

Medical practitioners were asked about patient's referral if any oral lesions were suspicious and if they ever attended educational course on oral cancer. There were also question to determine medical practitioner interest in and preferences about approaches to oral cancer to continuing education courses.

Master chart and coding list was prepared before entering the data and then the collected data was entered into computer through Microsoft Excel Sheet 2013 and converted into SPSS 11.5 for statistical analysis. Descriptive statistics like mean, standard deviation, proportion was calculated. Inferential statistics like chi square test at 95% confidence interval where $p < 0.05$ was applied. Data was summarised using frequency distribution tables and graphical methods of presentation of data (Bar, Multiple Bar, Pie Chart, etc.).

Sample size for this prevalence study was calculated using prevalence of Maryland family physicians' knowledge, opinions and practices about oral cancer Maria Teresa Canto et al.

For sample size,

$$n = \frac{4pq}{l^2}$$

Where, n =sample size, p = expected prevalence i.e.70%, q = (1-p) = 30%, l = precision =10% of p, i.e. considered 90% power.

ON CALCULATION:

Relative error = (10/100)*70

=7.0

$$\text{Sample size} = \frac{4pq}{l^2}$$

$$= \frac{(4*70*30)}{(7.0)^2}$$

$$= \frac{8400}{49}$$

= 171.43

Non response =10% of sample size

= (10/100)*171.43

=17.14

Adding 10% non-response, the sample size is

= 171.43 +17.14 =188.57 = 190

So, the final sample size calculated was 190, which included all the registered medical professional working in BPKIHS and six teaching district and three teaching zonal hospital of BPKIHS in eastern Nepal. Although the estimated sample size is 190, all the medical professional of target population was included (who ever give consent).Total enumeration sampling method was used for performing this study and all the individuals meeting the inclusion criteria was invited to participate in this study. The final sample size taken was 196.

Total duration of research was one and half month.

We assessed socio-demographic profile (age, gender, designation of practitioner, hospital where you practice, country from where they received their primary medical training), knowledge about oral cancer and their risk factors, their level of awareness and their opinion towards the risk factors, signs and symptoms of oral cancer and their practice on examination, referral and history taking regarding oral cancer.

After receiving the clearances for research protocol from Departmental research unit, CODS, BPKIHS; a participant information sheet, consent form was

provided to the participants. Data was collected in the questionnaire. A structured questionnaire by Canto et al used in Maryland survey 2009[17] was used for which the permission was obtained. The total estimated time for filling up of questionnaire was 15 minutes.

RESULT

Of the 196 participants, 74% were males while 26% were females. The age of participants ranged from 20 to 59 years where maximum (134, 68.4%) were in 20 to 29 years age group. Ninety six participants were medical officer, 79 were junior resident, 11 were senior resident and 13 were consultant. One hundred thirty one participants were the one practicing at BPKIHS while 65 were practicing at district and zonal hospital of eastern Nepal. One hundred sixty-nine participants received their medical education from Nepal, 16 from India and 11 from South East Asia (China, Bangladesh).

Out of 196 participants, 74 (37.8%) participants correctly answered tongue as the most common site of oral cancer excluding lip. One hundred sixty three (83.2%) participants correctly identified squamous cell carcinoma as the most common site of oral cancer.

Of the medical practitioner that responded to the survey, 189 (96.4%) knew that use of tobacco was the main risk factor for oral cancer.

Figure 1:

S.n.	Categories	Variable	Frequency	Percentage
1.	Common form of oral cancer	Squamous cell carcinoma	163	83.2
2.	Characteristic of lymph node in oral cancer	Hard painless, mobile or fixed	138	70.4
3.	Examination of tongue for oral cancer	Pull patients tongue and inspect both sides	36	18.4
4.	Early oral cancer lesion appear as	Small painless red area	98	50.0
5.	Stage in which oral cancer are diagnosed often	Regional/ distant	86	43.9
6.	Most common age group of oral cancer	>60 years	83	42.3
7.	Most common site of oral cancer excluding lip	Tongue	74	37.8
8.	Area of tongue most likely to develop oral cancer	Ventral-lateral border	70	35.7
9.	Most likely to be associated with oral cancer (first)	Leukoplakia	118	60.2
10.	Most likely to be associated with oral cancer (second)	Erythroplakia	110	56.1
11.	Factor least likely to be associated with oral cancer	Familial clustering	65	33.2
12.	Lip cancer	Are related to sun exposure	63	32.1
13.	Symptom most commonly expressed by patient	Ulceration	91	46.4

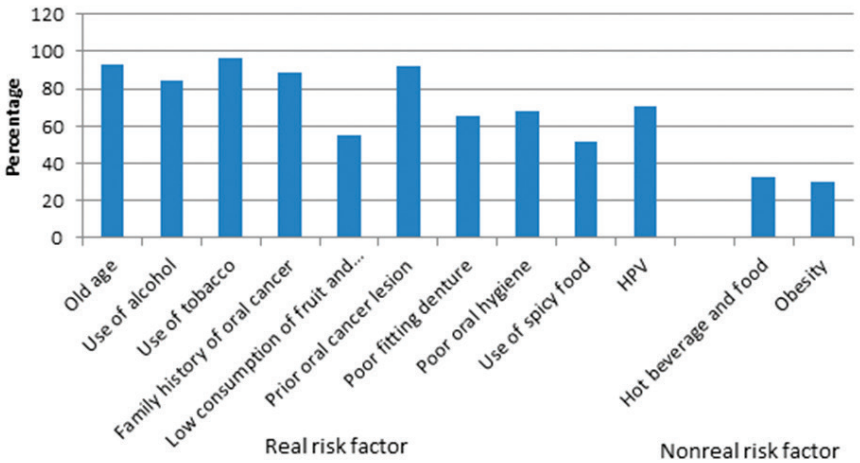
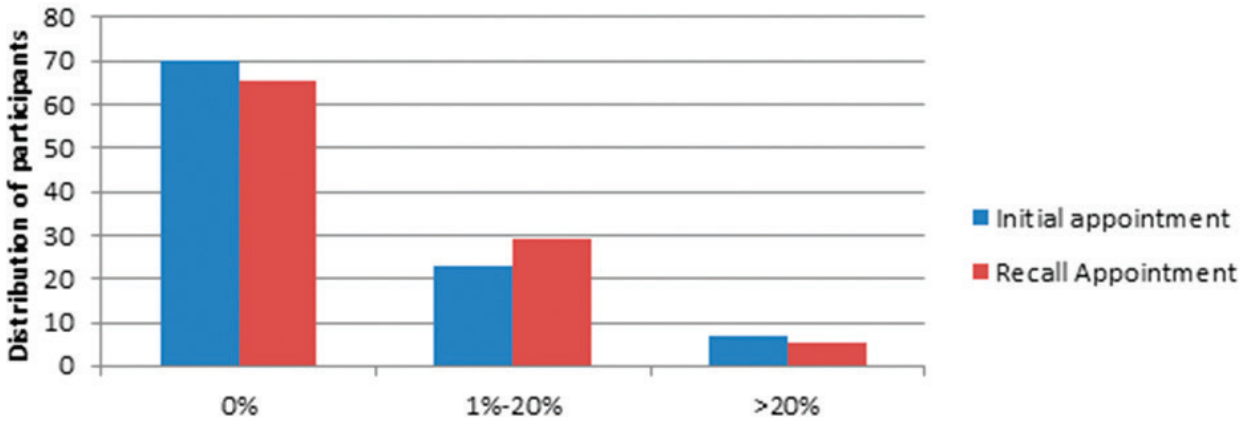
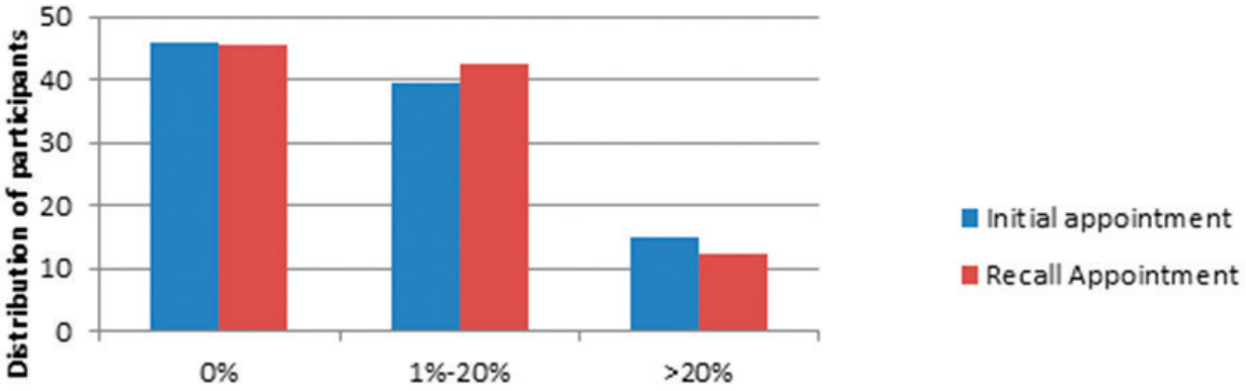


Figure 2: Percentage of participants providing correct response on oral cancer risk factors.



Percentage of patients undergone oral examination for screening of oral cancer

Figure 3: Distribution of medical practitioners providing oral cancer examination in 18-39 yrs.



Percentage of patients undergone oral examination for screening of oral cancer

Figure 9: Distribution of medical practitioners providing oral cancer examination in 40 yrs.

Among the participants, 65.3% had average knowledge of oral cancer, 28.1% had low knowledge and 6.6% had high knowledge of oral cancer. Similarly 46.4% had average knowledge of risk factor of oral cancer, 18.9% had low knowledge while 34.7% had high knowledge about risk factor of oral cancer.

In 18-39 years, 77 (39.3%) stated that it was not necessary to provide oral cancer examination, whereas for age 40 years and above longer examination duration was to reason. Regarding the examination for edentulous patient, 23(11.7%) performed oral cancer examination in more than 20% of the time and 139(68.9%) didn't provide any examination. When asked about the practice of lymph node palpation, only 11(5.6%) of the medical practitioner palpated lymph node of 81-100%of their patients while 44(22.4%) didn't palpate the lymph node of the patients.

In past 12 months, only 43.7% of medical practitioners have biopsied their patients for suspicious oral lesions whereas 39.3% of the medical practitioners surveyed, had not refer any of their patients for diagnosis of suspicious oral lesions. Of those medical practitioner surveyed, 64.8% referred patients with suspicious oral lesions to oral and maxillofacial surgeon, 23% referred such patients to oral surgeon, 11.2% preferred referring to ENT specialist, while 1% chose to refer to dermatologist.

Among the medical practitioner surveyed, 139 (70.9%) scored high in grading of practice regarding history taking, 43 (21.9%) were graded average and 14(7.1%) were graded low.

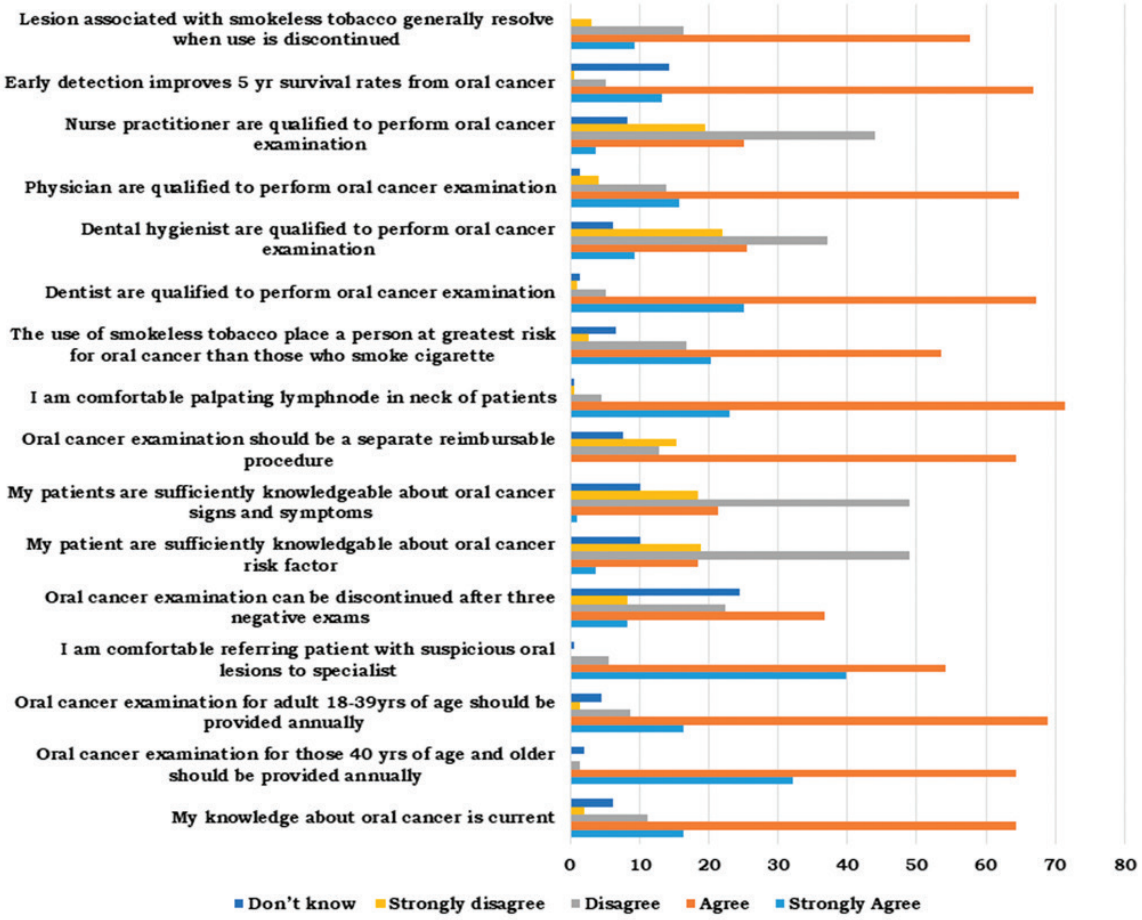


Figure 4:

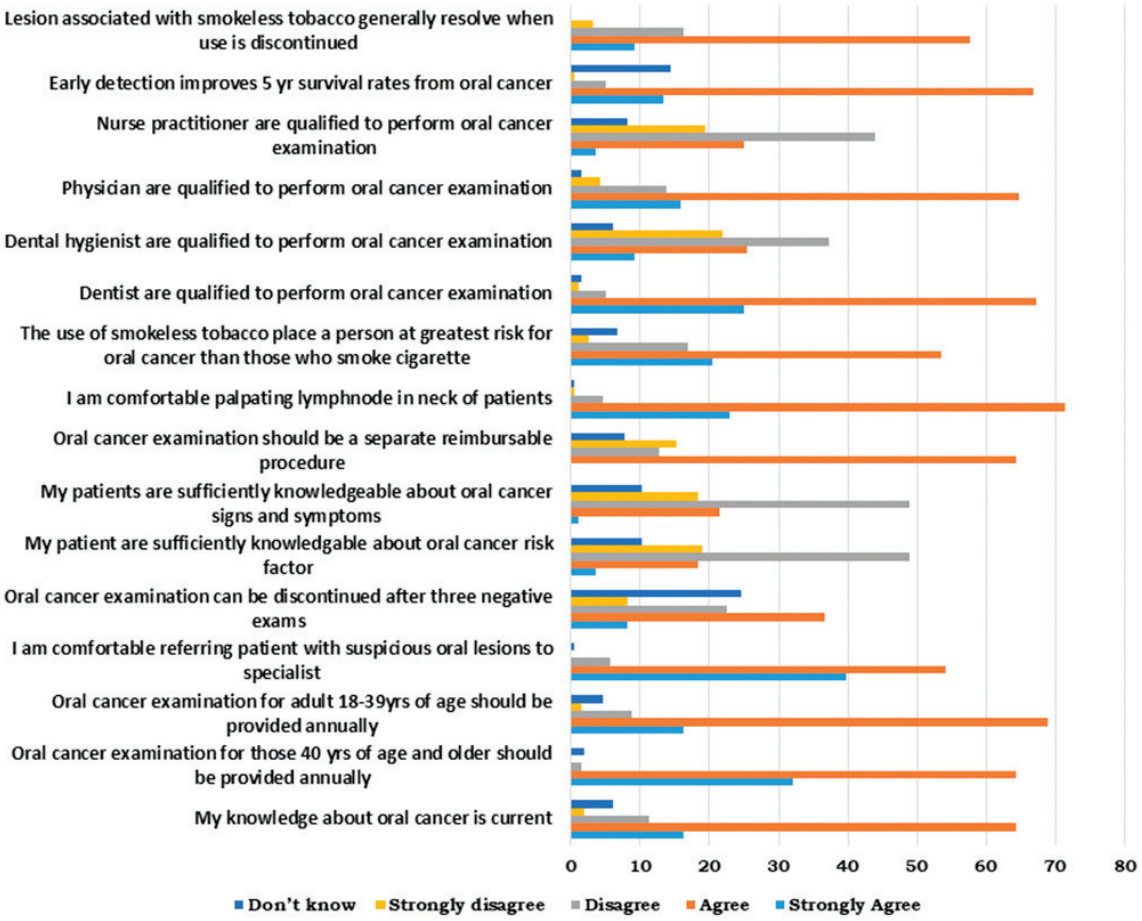


Figure 5: Opinion of participants in oral cancer.

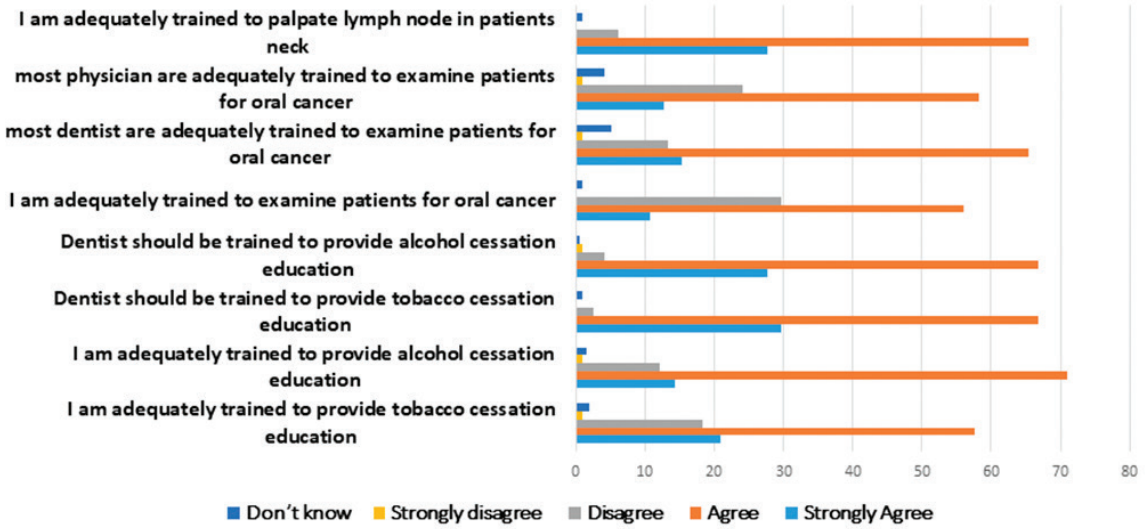


Figure 6: Opinion of participants in oral cancer.

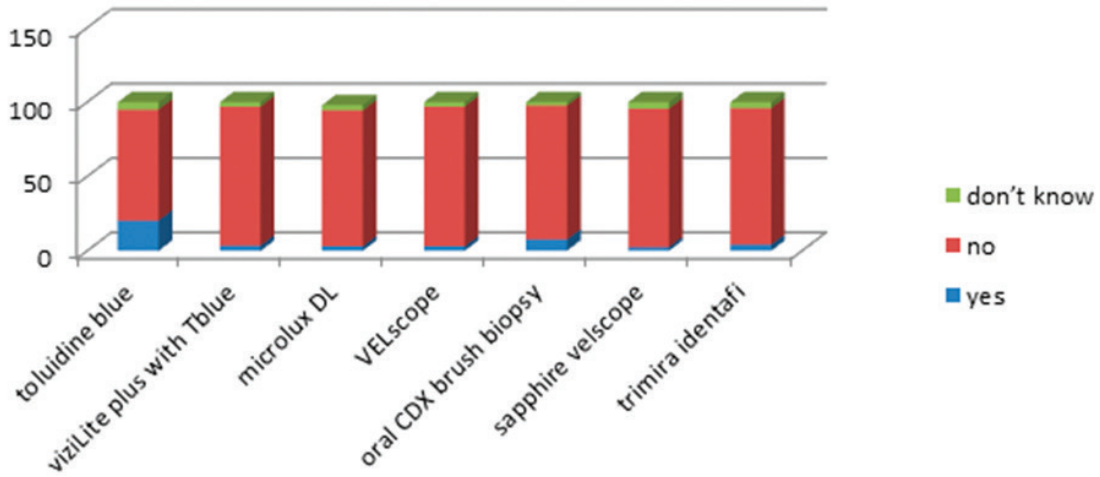


Figure 7: Percentage of medical practitioner who knows about different diagnostic aids.

Medical practitioners were asked if they had attended any continuing education course on oral cancer. Sixty two answered "yes" and 134 answered "no". Among the participants who had attended the course 33 had attended during past 2 -5 yrs. 149 were interested in attending continuing educational course on oral cancer.

In question asked to rate 3.1% said their under graduate training regarding oral cancer examination is very good and 2.6% very poor.

Analysis

While assessing the practice, significantly higher practice of history taking was seen in BPKIHS

Table 5. Educational approach preferred (first choice)

Type	frequency	percentage
Hands out, booklet with self test	12	8.1
Continuing education journals	17	11.4
Audio-visual slide or video tape series	42	28.2
Satellite telecommunication program viewed at medical centre or taped for future viewing	10	6.7
Lecture	27	18.1
Clinical demonstration course	32	21.5
Study club	2	1.3
Computer based programmes	1	.7
Conference call with expert in field	5	3.4
Online	1	.7

than in other hospitals (p=0.030). Designation, age of participants, gender and place of study was not statistically significant with practice in history taking.

DISCUSSION

Oral cancer burden has been on rise so preventive strategies is necessary to limit the growing rate of new cases of oral cancer. The easy accessibility of mouth makes diagnosis of any premalignant lesion or the oral cancer in its early stage possible. Lack of awareness and delayed diagnosis and treatment of oral cancer is mainly responsible for large scale mortality rate.[21] According to the Maryland Cancer Registry most oral cancers is diagnosed by physician at late stages.[3]

The questionnaire used in the survey had various segments to assess the knowledge of the medical practitioners in eastern Nepal about oral cancer, its risk factor, their practice about screening of oral cancer as well as their opinion about current state of knowledge on oral cancer and their interest in pursuing education about oral cancer.

Majority of the medical practitioners in this study i.e. 65.3% had average knowledge about oral cancer of which 83.2% were knowledgeable about the most common form of oral cancer, 14.3% knew about asymptomatic early oral cancer lesions, 50.5% knew how to examine tongue and 70.4% knew the character of lymph node in oral cancer. Maryland family physician knowledge, opinion and practice about oral cancer[3] suggested that more than 70% had knowledge about early oral cancer lesion, its' most common histological type, method to examine the tongue and about lymph nodes palpation. We found 32.1% of participants were knowledgeable about lip cancer compared to 56% of Maryland family physician. Fifty percent of medical practitioner of eastern Nepal in comparison to 57% of Maryland family physicians knew the kind of early lesion associated with oral cancer.[17] More than 84% agrees that use of tobacco product, use of alcohol, old age, prior oral cancer lesion and family history of cancer are the risk factors leading to oral cancer and this finding is similar to Maryland physicians' study where approximately 83% of family practitioners said the risk factors for oral cancer are use of tobacco product, use of alcohol, old age and prior oral cancer lesion.[17]

In this study, 38.3% of the medical practitioner believed obesity to a risk factor which is quite low when compared to that of Maryland research where 65.3% of the respondents identified obesity to be a risk factor.[17] Similarly, in a study done in Lagos, Nigeria over 60% of general medical practitioners[8] believed obesity as a real risk factor of oral Cancer. Obesity being a non-risk factor for oral cancer has being confirmed by 70% and 90% of physicians in earlier studies[17, 30] proves otherwise, so this might be due to the varying medical curriculum in the different countries.[8]

In Nigerian study, 46.5% General Medical Practitioners did basic oral examination on first visit and 37.8% on recall visits on adult patients but more detailed visual examination was done only by 36.2% of practitioners.[8] Similarly in Maryland study 15% provided oral cancer examination on 40 years and over at initial appointment 100% of time.[5] We found out that 69.9% of medical practitioner in our study said that it was unnecessary to screen for oral cancer in the age group of 18-39 years believing such examination was not necessary while for 40 and above, they said it took much time for screening which resulted in such low level of screening. According to Nigeria study (8), about 9% physician in their undergraduate or postgraduate level received training on oral cancer ,where as in our study 31.6% attended continuing course on oral cancer but who hadn't received any oral cancer education amounted to 68.4%. Only 48.1% of General Medical Practitioners referred suspicious lesion to a specialist. An encouraging fact that we came across this study was that 76% of the medical practitioners are interested in continuing course on oral cancer in future.

A study conducted in Puerto Rico, among healthcare provider suggest that the level of screening for oral cancer can be improved by training.(19) This study helped to distinguish the amount of knowledge on oral cancer that we should possess and the knowledge that we currently have. However, this study had some limitations. The questionnaires consisted of 35 questions and it was self-administered. So, many participants had difficulty in understanding some of them. Also it was time consuming so many of the practitioners had very little time to fill them up.

CONCLUSION

Among the medical practitioners who participated, 65.3% had average knowledge about oral cancer, 28.1% had low knowledge and about 6.6% had high knowledge. No significant relationship was found between knowledge about oral cancer and demographic status.

It was found that 34.7% of medical practitioners from eastern Nepal had high knowledge about risk factor of oral cancer. Majority of the participants (46.4%) had average knowledge about risk factor and 18.9% showed low knowledge. No significant relationship was found between knowledge about risk factor of oral cancer and demographic status.

Of the total participating medical practitioners, 70.9% had high grading of practice regarding history taking i.e. they asked most of the questions during history taking related to oral cancer. 21.9% had average score and 7.1% of practitioners showed poor practice of history taking. Practice of history taking and practice setting (i.e. in BPKIHS hospital and in other zonal and district hospital of eastern Nepal) showed significant relationship (p= 0.030). The medical practitioners of BPKIHS practiced comprehensive history taking compared to others which was significant.

CONFLICT OF INTEREST: None

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